FIG. 1

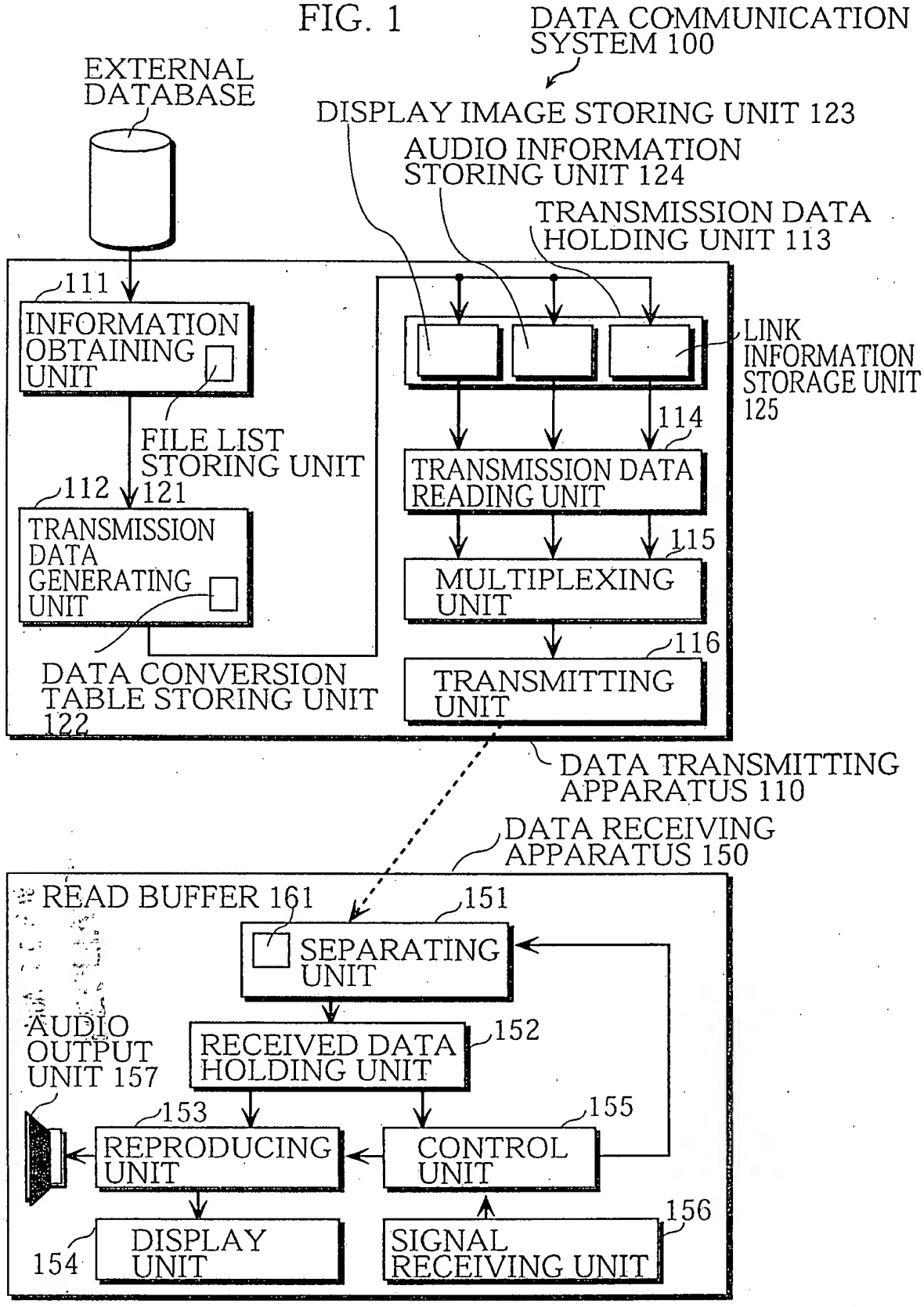

DATA COMMUNICATION SYSTEM 100
EXTERNAL DATABASE
DISPLAY IMAGE STORING UNIT 123
AUDIO INFORMATION STORING UNIT 124
TRANSMISSION DATA HOLDING UNIT 113
111
INFORMATION OBTAINING UNIT
LINK INFORMATION STORAGE UNIT 125
FILE LIST STORING UNIT 121
114
TRANSMISSION DATA READING UNIT
112
TRANSMISSION DATA GENERATING UNIT
115
MULTIPLEXING UNIT
116
TRANSMITTING UNIT
DATA CONVERSION TABLE STORING UNIT 122
DATA TRANSMITTING APPARATUS 110
DATA RECEIVING APPARATUS 150
READ BUFFER 161
151
SEPARATING UNIT
AUDIO OUTPUT UNIT 157
RECEIVED DATA HOLDING UNIT
152
153
155
REPRODUCING UNIT
CONTROL UNIT
156
154
DISPLAY UNIT
SIGNAL RECEIVING UNIT

FIG. 2

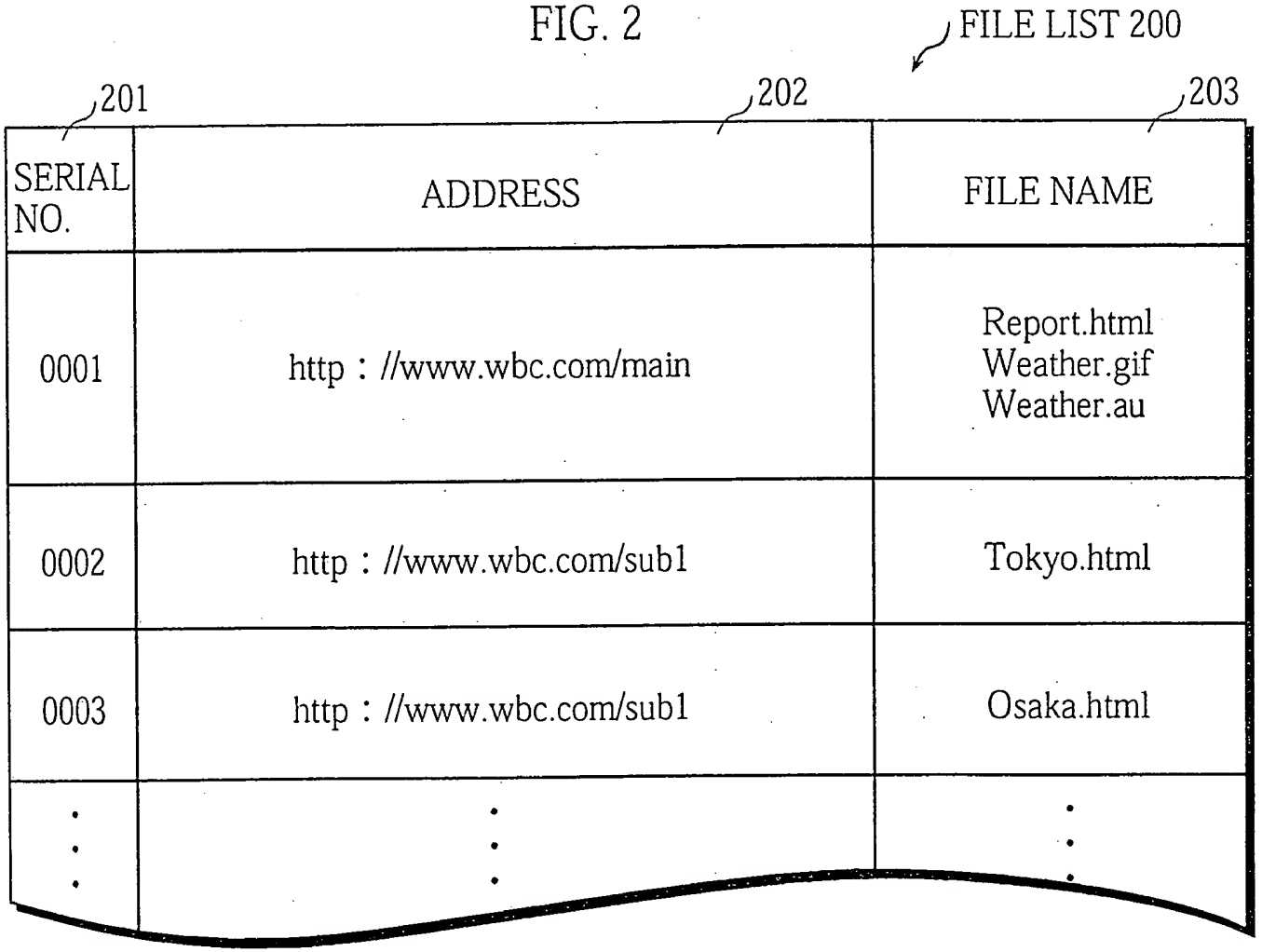
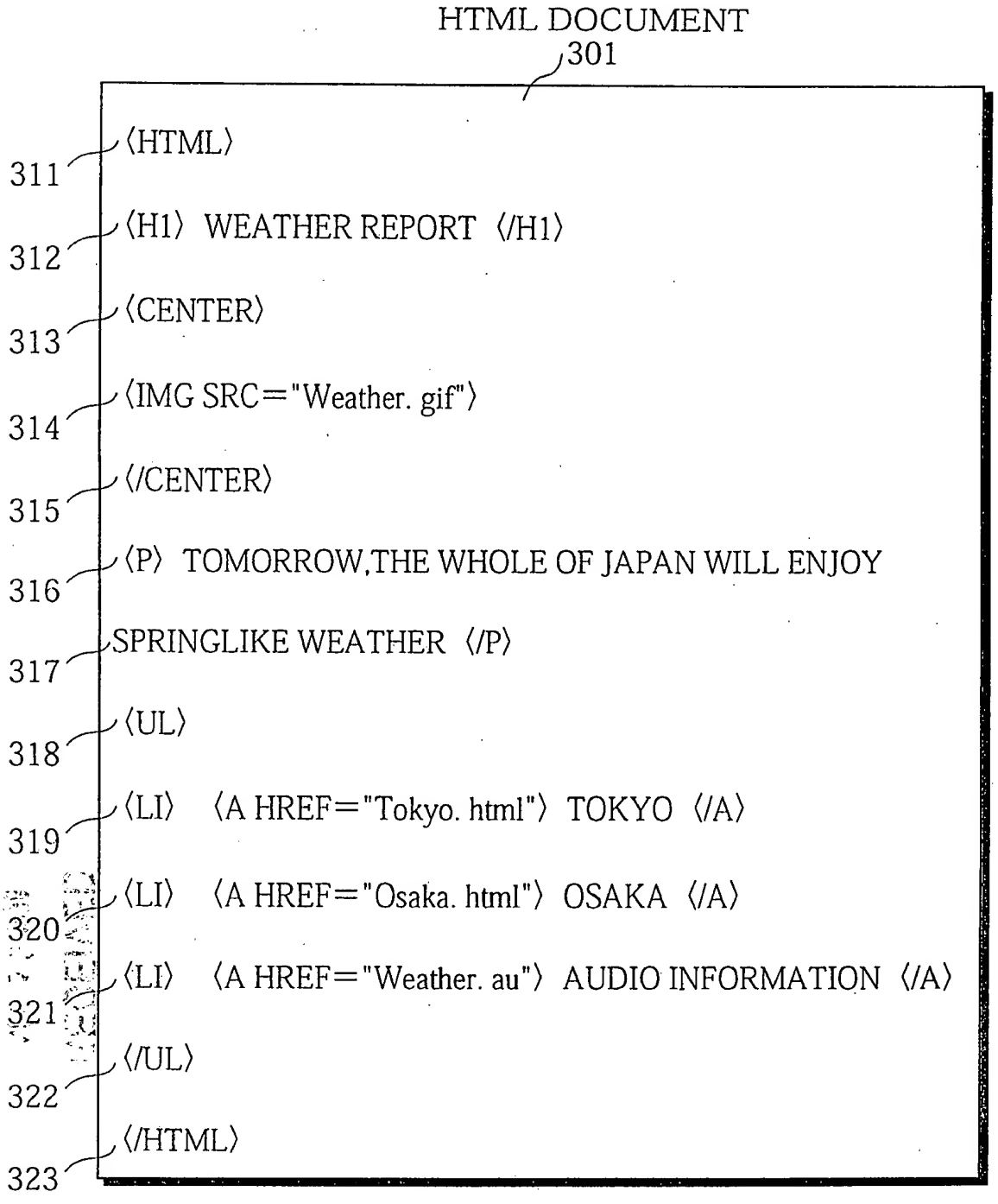

FILE LIST 200
201
202
203
SERIAL NO.
ADDRESS
FILE NAME
0001
http : //www.wbc.com/main
Report.html
Weather.gif
Weather.au
0002
http : //www.wbc.com/sub1
Tokyo.html
0003
http : //www.wbc.com/sub1
Osaka.html

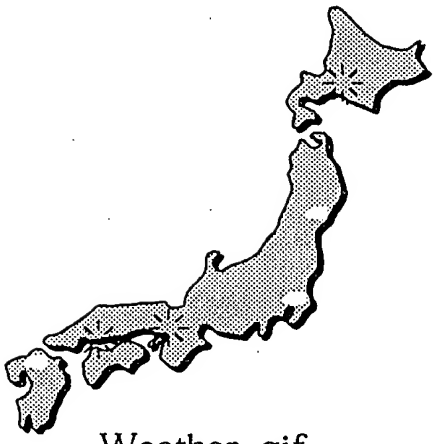
FIG. 3



Report. html

FIG. 4

401 IMAGE INFORMATION



Weather. gif

FIG. 5

HTML DOCUMENT 501

```
〈HTML〉
〈H1〉 TOKYO WEATHER 〈/H1〉
〈UL〉
〈LI〉 TOMORROW－FINE
〈LI〉 DAY AFTER TOMORROW－FINE
〈/UL〉
〈LI〉 〈A HREF＝"Report.html"〉 RETURN 〈/A〉
〈/HTML〉
```

511

Tokyo.html

FIG. 6

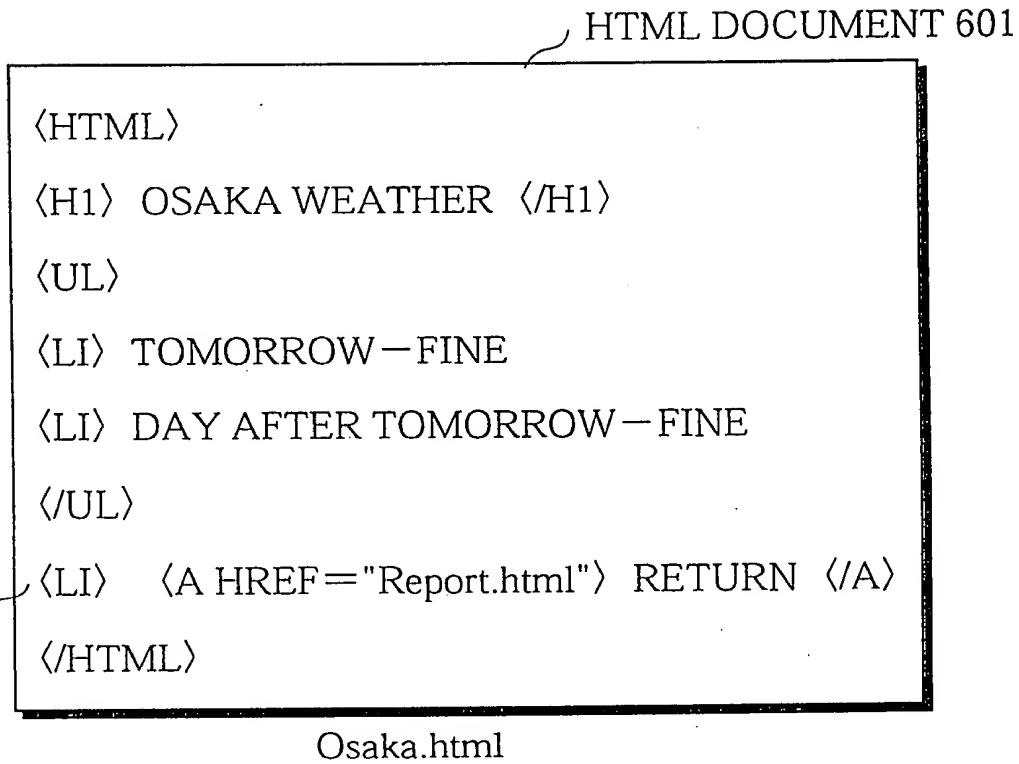

HTML DOCUMENT 601
〈HTML〉
〈H1〉 OSAKA WEATHER 〈/H1〉
〈UL〉
〈LI〉 TOMORROW－FINE
〈LI〉 DAY AFTER TOMORROW－FINE
〈/UL〉
〈LI〉 〈A HREF＝"Report.html"〉 RETURN 〈/A〉
〈/HTML〉
611
Osaka.html

FIG. 7

LINK INFORMATION TABLE 700

	FORMAT
INDEX INFORMATION (701)	⟨INDEX=9999⟩
HOT SPOT INFORMATION (702)	⟨HOTSPOT X=999,Y=999,GO_TO_PAGE(9999)⟩

("9" REPRESENTS A DECIMAL DIGIT)

FIG. 8A

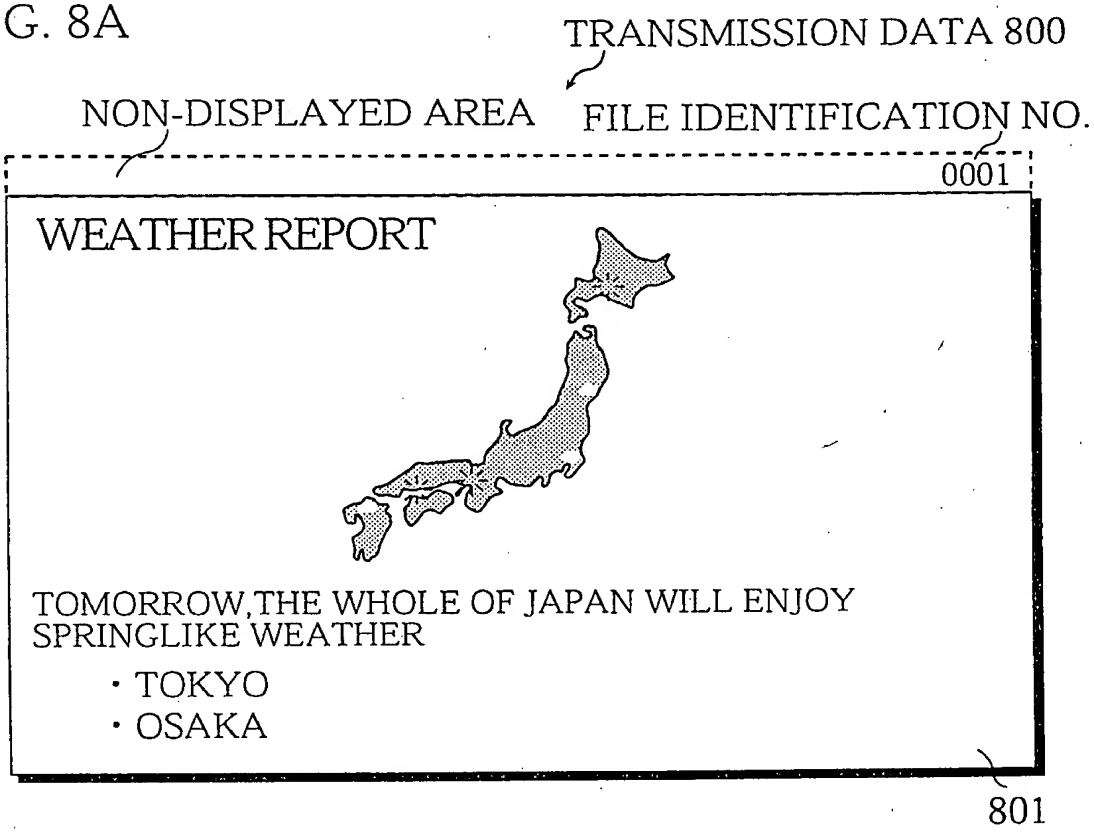


FIG. 8B

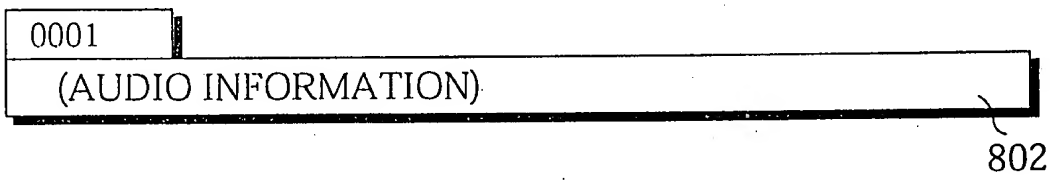


FIG. 8C

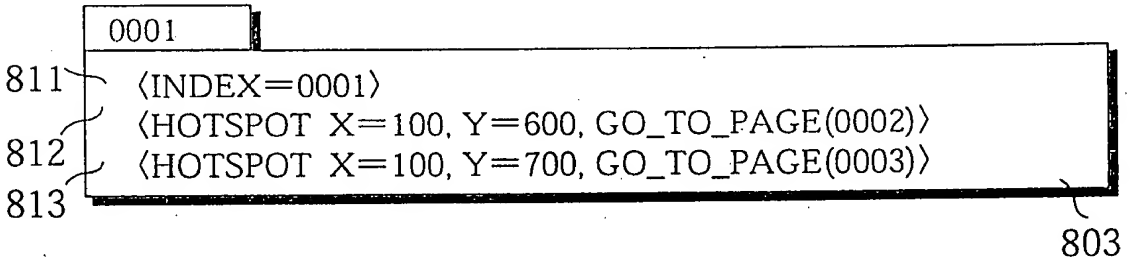


FIG. 9A

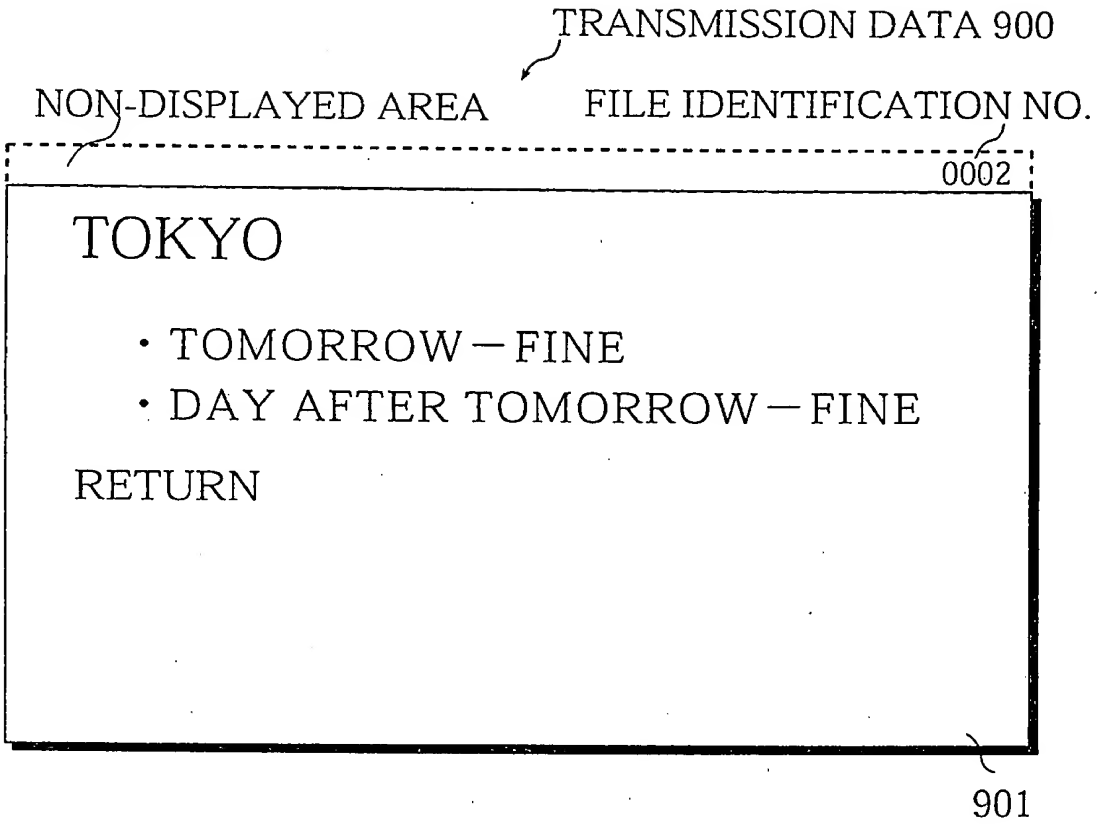

TRANSMISSION DATA 900
NON-DISPLAYED AREA
FILE IDENTIFICATION NO.
0002
TOKYO
・TOMORROW－FINE
・DAY AFTER TOMORROW－FINE
RETURN
901

FIG. 9B

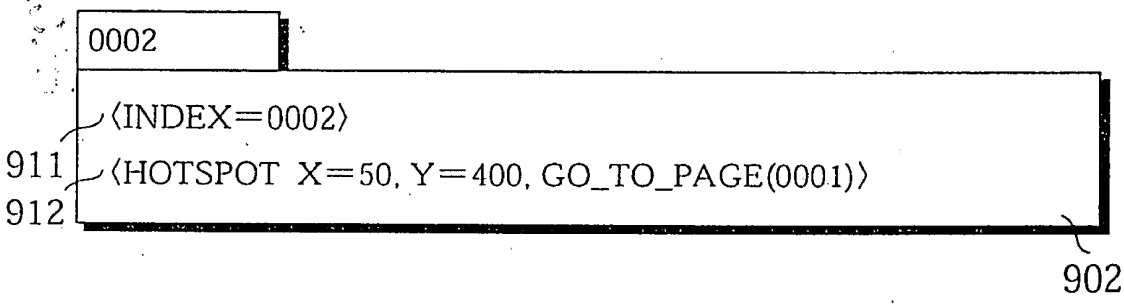

0002
〈INDEX=0002〉
911
〈HOTSPOT X=50, Y=400, GO_TO_PAGE(0001)〉
912
902

FIG. 10A

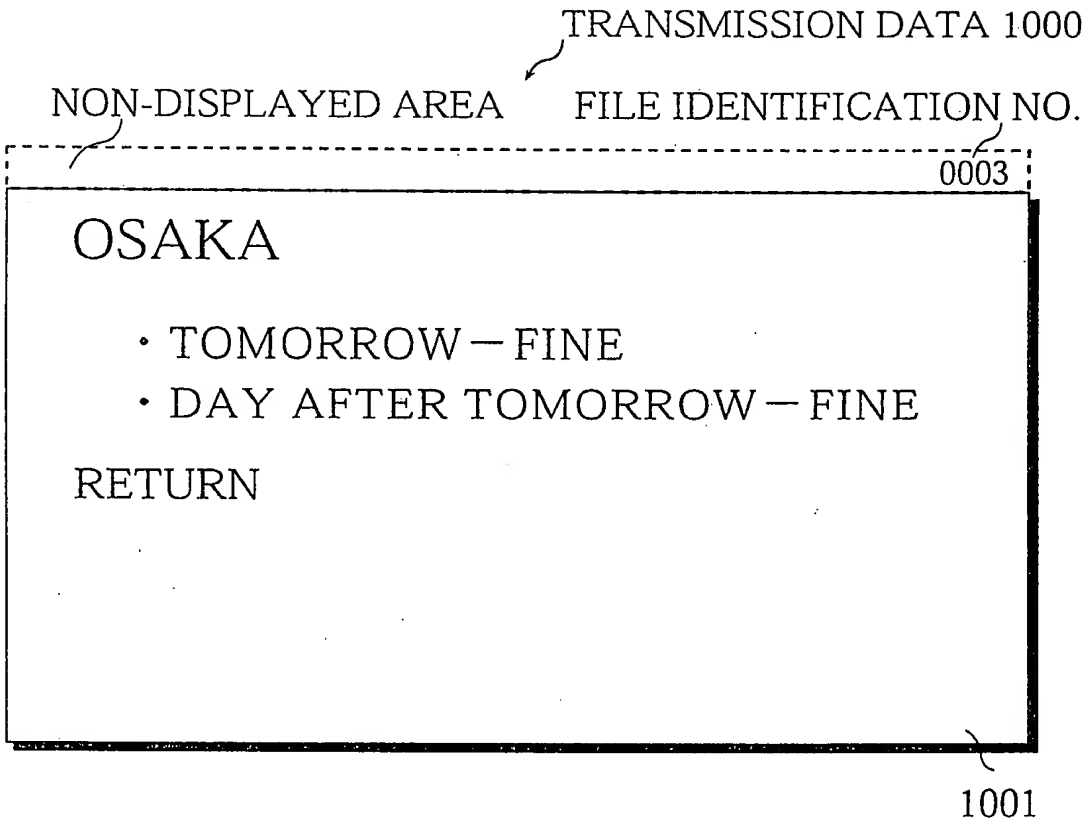


FIG. 10B

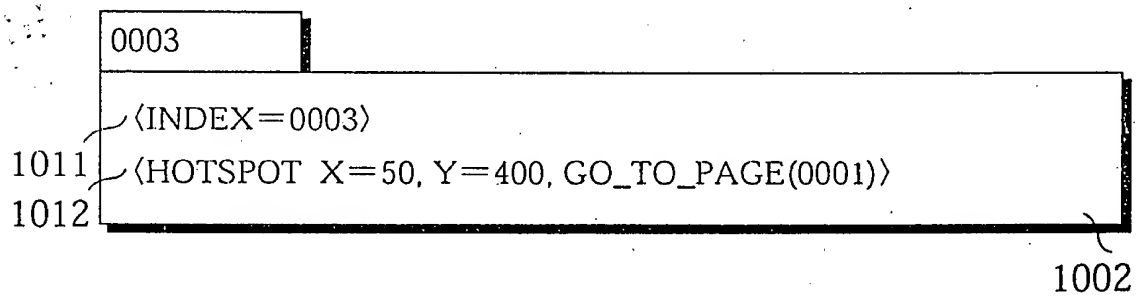


FIG. 11A

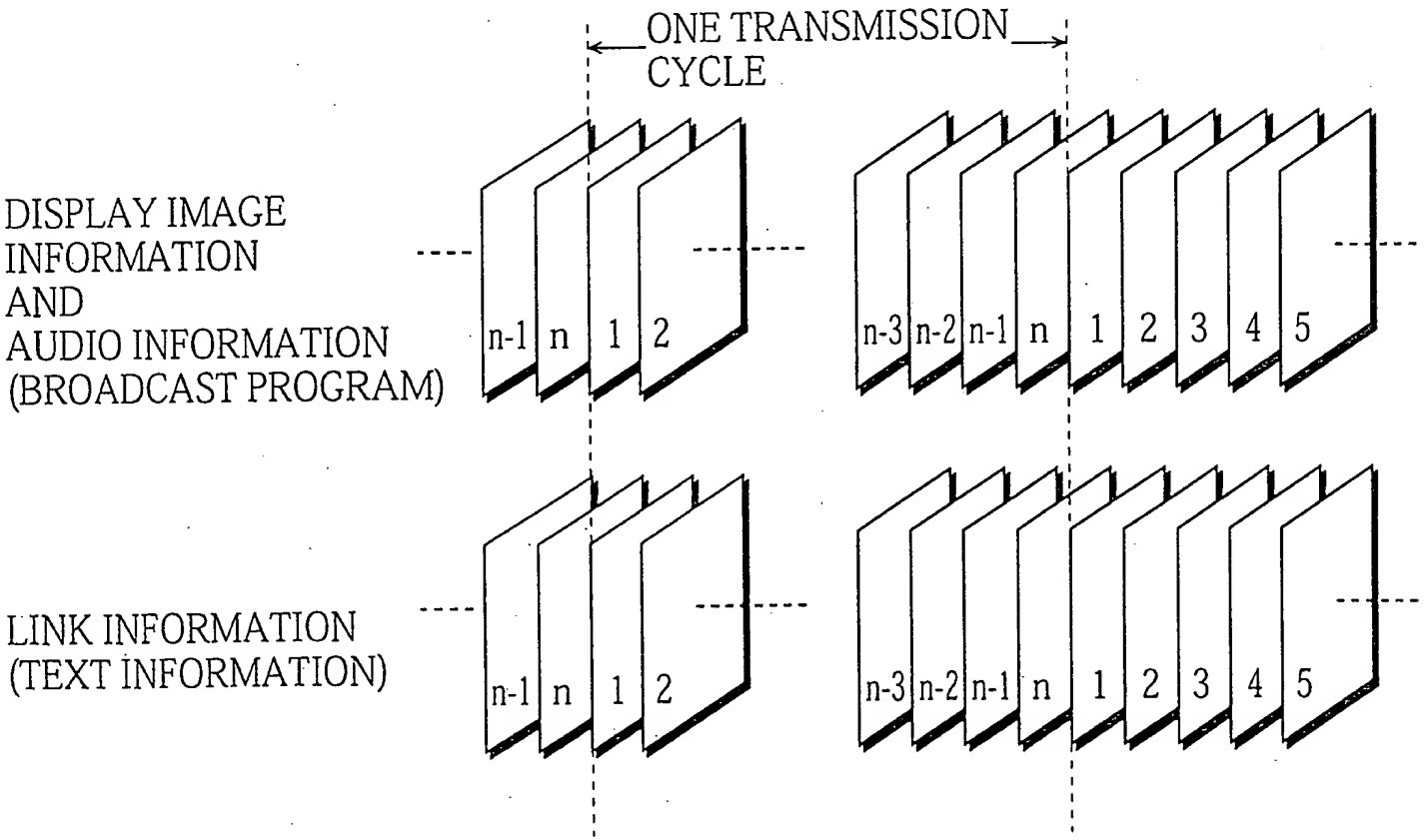

ONE TRANSMISSION CYCLE
DISPLAY IMAGE INFORMATION AND AUDIO INFORMATION (BROADCAST PROGRAM)
LINK INFORMATION (TEXT INFORMATION)
n-1
n
1
2
n-3
n-2
n-1
n
1
2
3
4
5

FIG. 11B

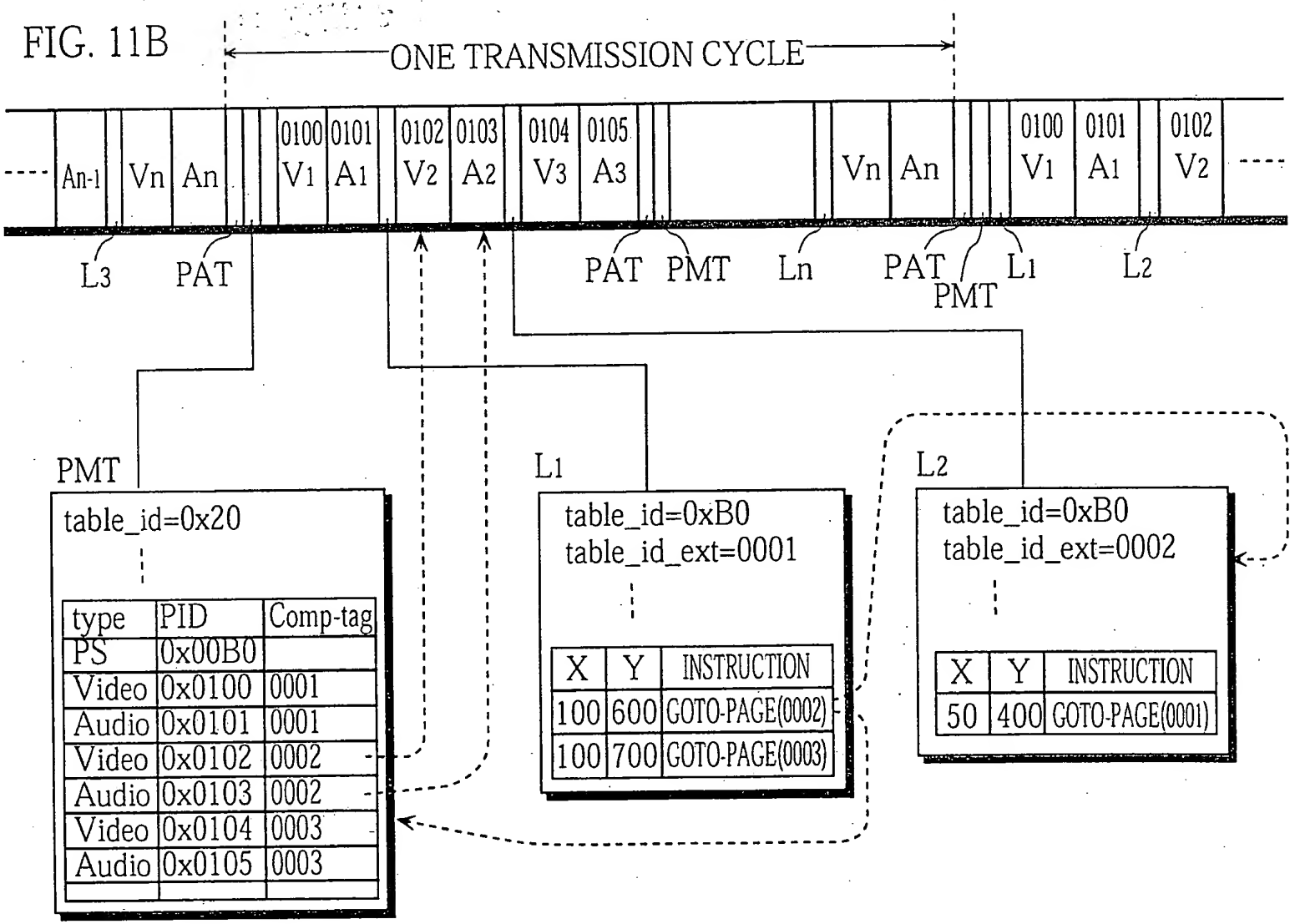

ONE TRANSMISSION CYCLE
An-1
Vn
An
0100 V1
0101 A1
0102 V2
0103 A2
0104 V3
0105 A3
Vn
An
0100 V1
0101 A1
0102 V2
L3
PAT
PAT
PMT
Ln
PAT
PMT
L1
L2
PMT
table_id=0x20
type | PID | Comp-tag
PS | 0x00B0 |
Video | 0x0100 | 0001
Audio | 0x0101 | 0001
Video | 0x0102 | 0002
Audio | 0x0103 | 0002
Video | 0x0104 | 0003
Audio | 0x0105 | 0003
L1
table_id=0xB0
table_id_ext=0001
X | Y | INSTRUCTION
100 | 600 | GOTO-PAGE(0002)
100 | 700 | GOTO-PAGE(0003)
L2
table_id=0xB0
table_id_ext=0002
X | Y | INSTRUCTION
50 | 400 | GOTO-PAGE(0001)

FIG. 12

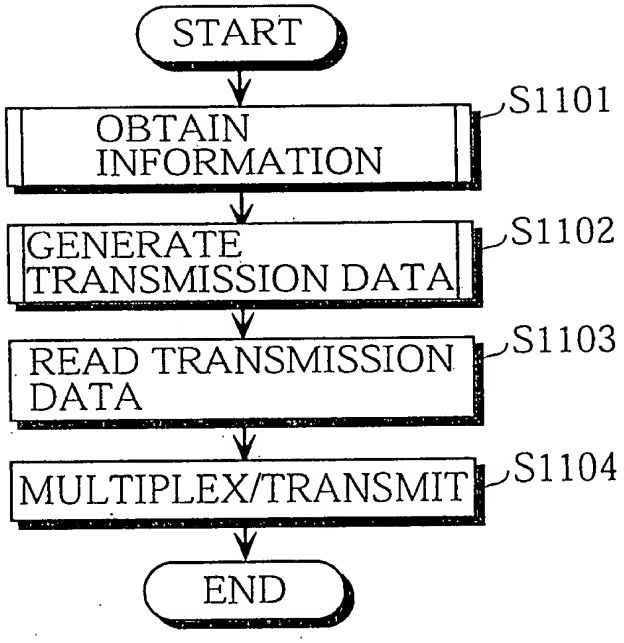

START
OBTAIN INFORMATION
S1101
GENERATE TRANSMISSION DATA
S1102
READ TRANSMISSION DATA
S1103
MULTIPLEX/TRANSMIT
S1104
END

FIG. 13

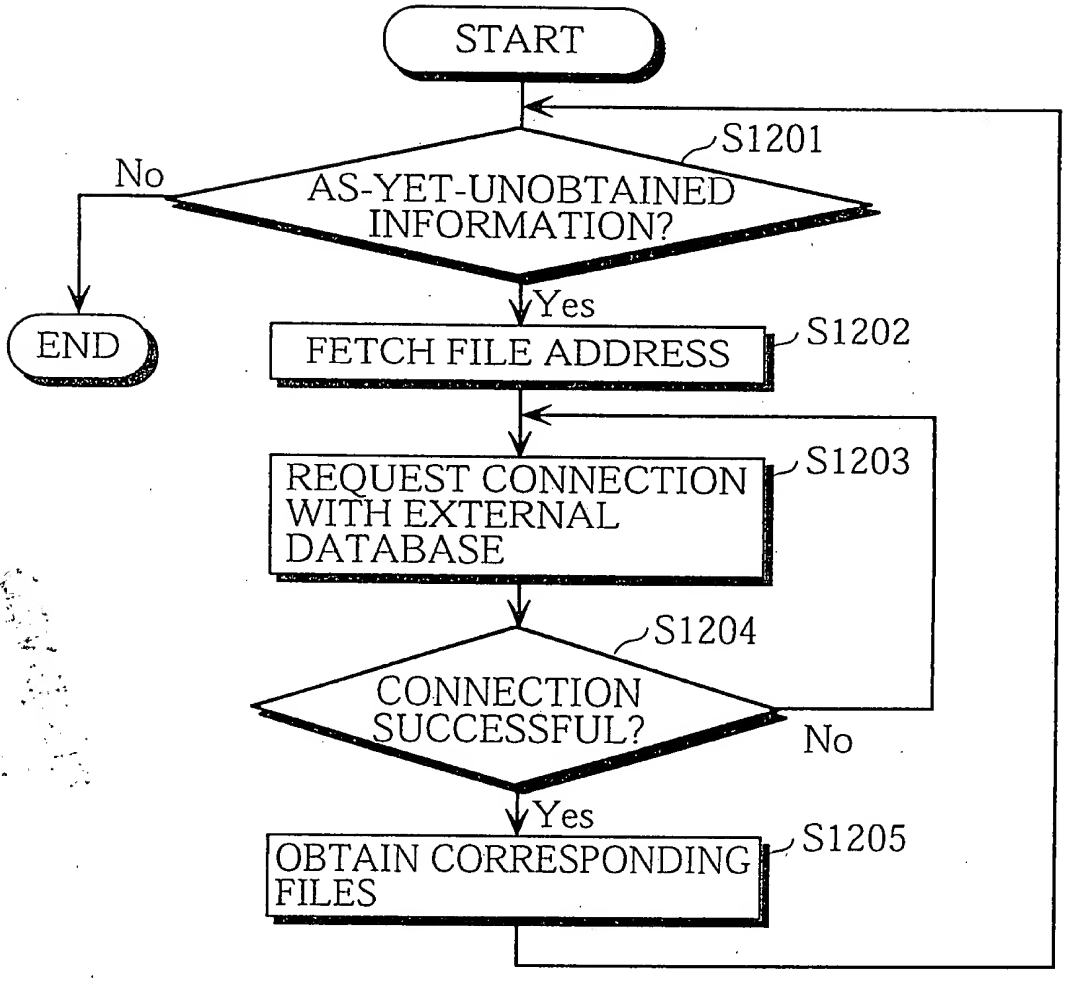

START
S1201
AS-YET-UNOBTAINED INFORMATION?
No
Yes
END
FETCH FILE ADDRESS
S1202
REQUEST CONNECTION WITH EXTERNAL DATABASE
S1203
S1204
CONNECTION SUCCESSFUL?
No
Yes
OBTAIN CORRESPONDING FILES
S1205

FIG. 14

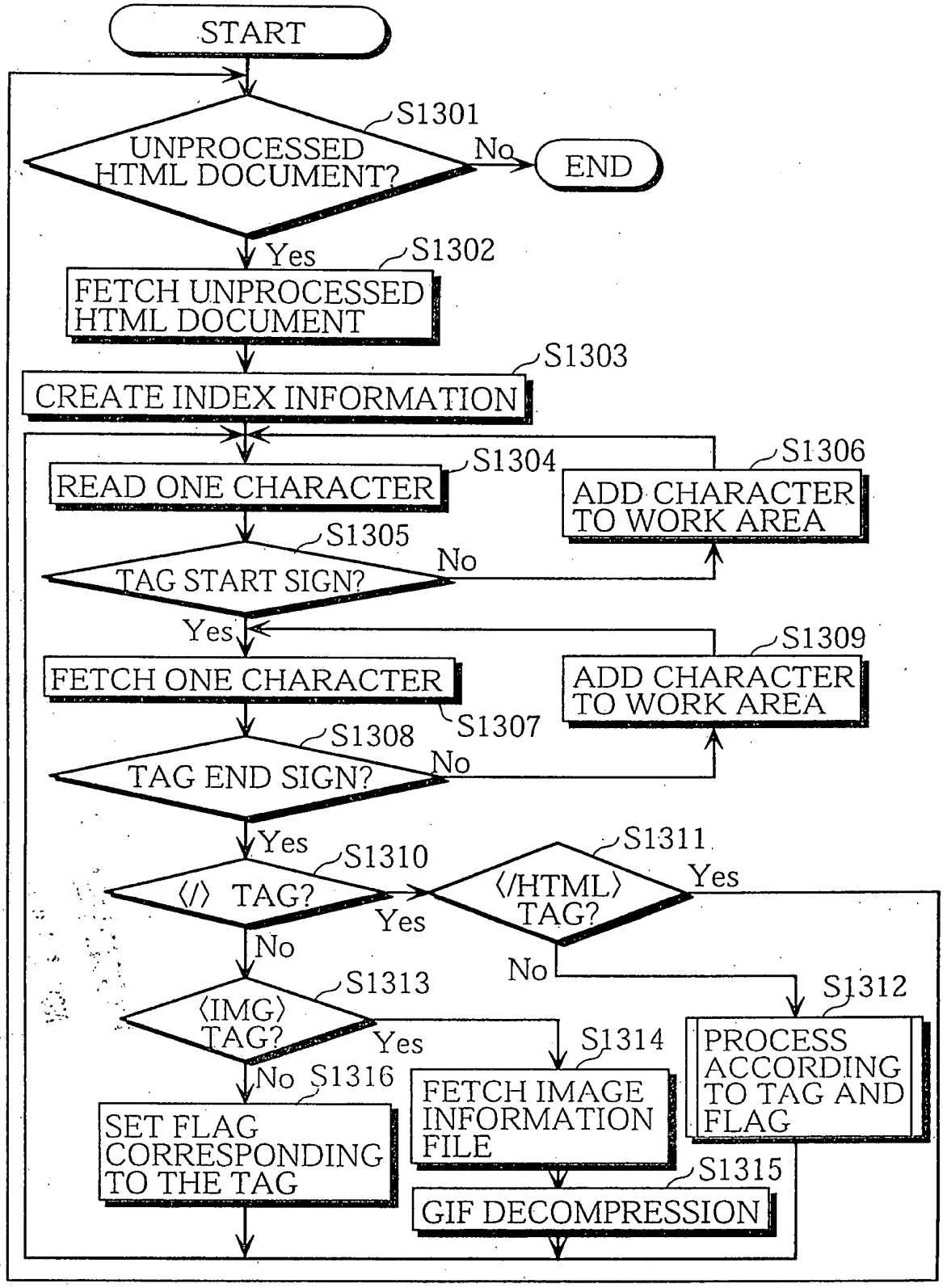

START
S1301
UNPROCESSED HTML DOCUMENT?
No
END
Yes
S1302
FETCH UNPROCESSED HTML DOCUMENT
S1303
CREATE INDEX INFORMATION
S1304
READ ONE CHARACTER
S1306
ADD CHARACTER TO WORK AREA
S1305
TAG START SIGN?
No
Yes
S1309
FETCH ONE CHARACTER
ADD CHARACTER TO WORK AREA
S1307
S1308
TAG END SIGN?
No
Yes
S1311
S1310
〈/〉 TAG?
〈/HTML〉 TAG?
Yes
Yes
No
No
S1313
S1312
〈IMG〉 TAG?
Yes
S1314
PROCESS ACCORDING TO TAG AND FLAG
No
S1316
FETCH IMAGE INFORMATION FILE
SET FLAG CORRESPONDING TO THE TAG
S1315
GIF DECOMPRESSION

FIG. 15

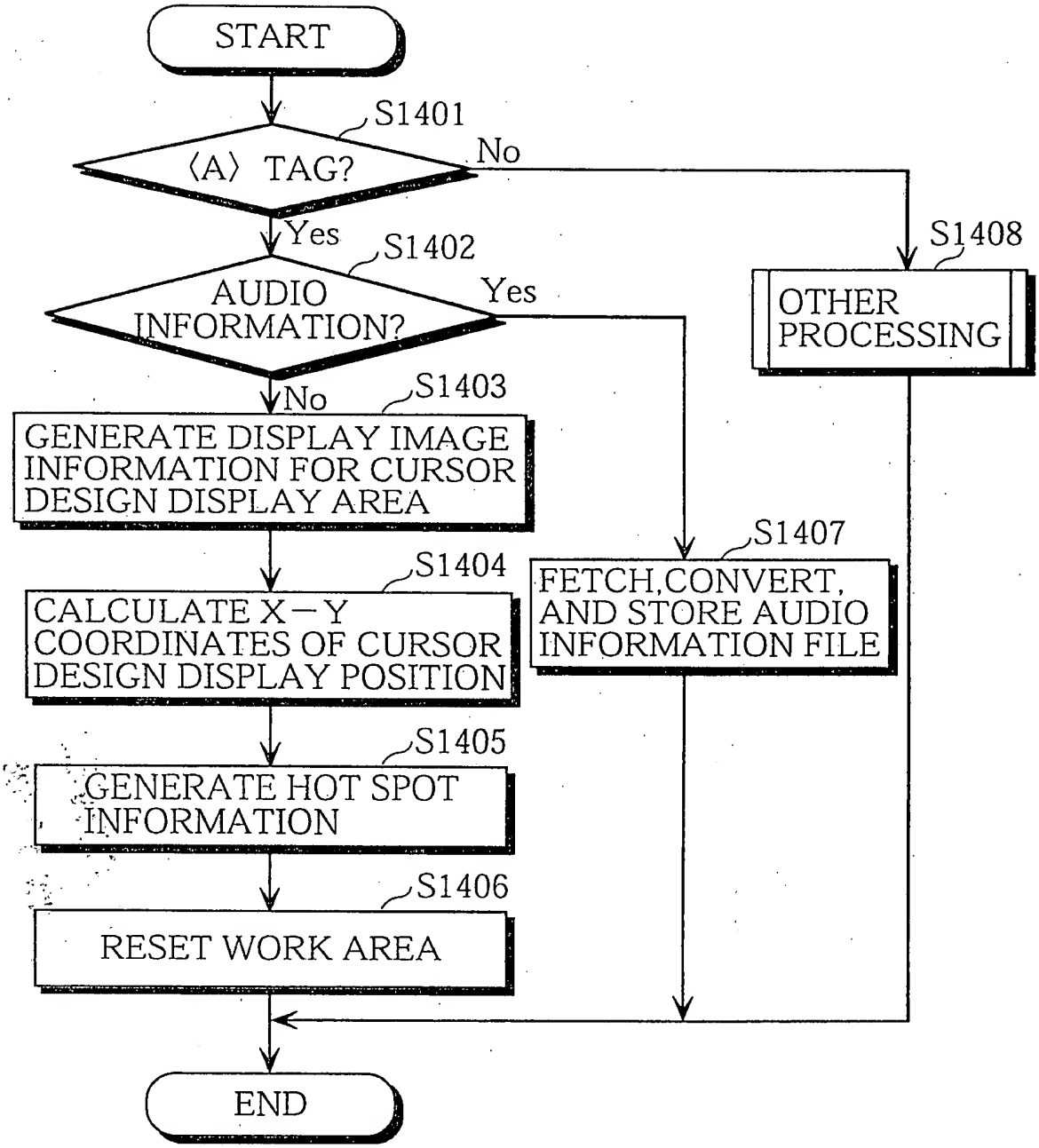

START
S1401
〈A〉 TAG?
No
Yes
S1408
OTHER PROCESSING
S1402
AUDIO INFORMATION?
Yes
No
S1403
GENERATE DISPLAY IMAGE INFORMATION FOR CURSOR DESIGN DISPLAY AREA
S1407
FETCH,CONVERT, AND STORE AUDIO INFORMATION FILE
S1404
CALCULATE X−Y COORDINATES OF CURSOR DESIGN DISPLAY POSITION
S1405
GENERATE HOT SPOT INFORMATION
S1406
RESET WORK AREA
END

FIG. 16

CURSOR NO.	DISPLAY POSITION(X,Y)
1	(100, 600)
2	(100, 700)
3	
4	
5	

FIG. 17

DESIGN INFORMATION

CURSOR NO.	SELECTED	NOT SELECTED
1		①
2		②
3		③

FIG. 18

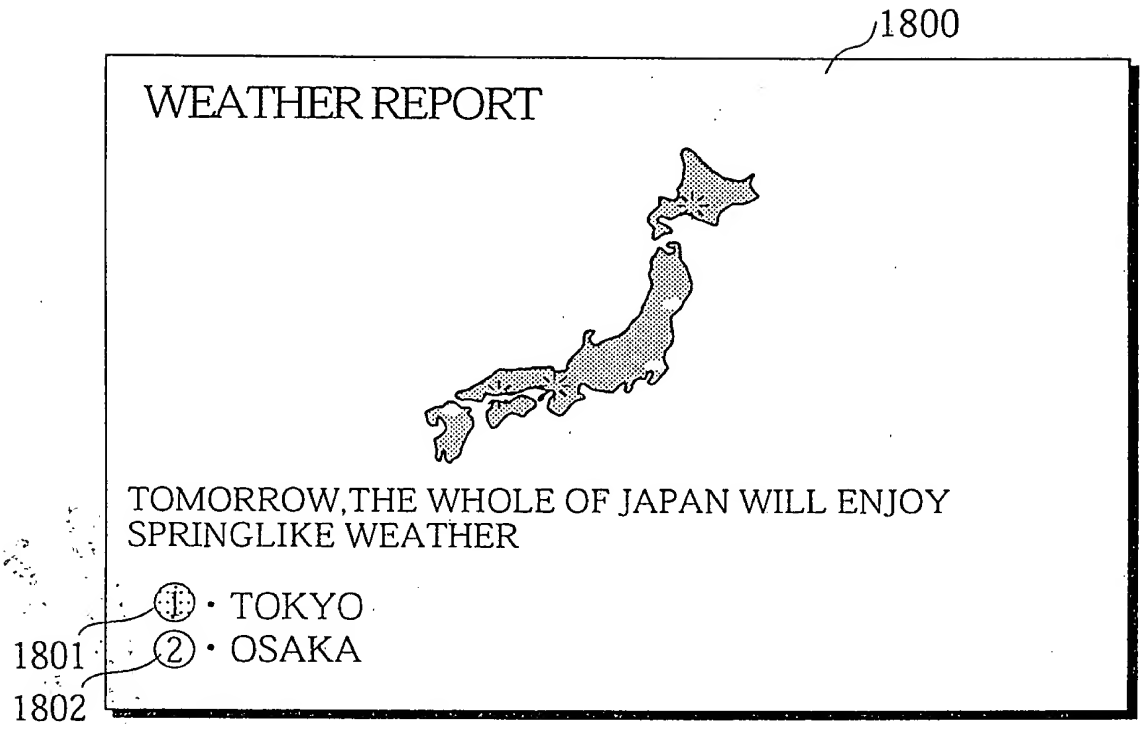

1800
WEATHER REPORT
TOMORROW,THE WHOLE OF JAPAN WILL ENJOY SPRINGLIKE WEATHER
① · TOKYO
② · OSAKA
1801
1802

FIG. 19

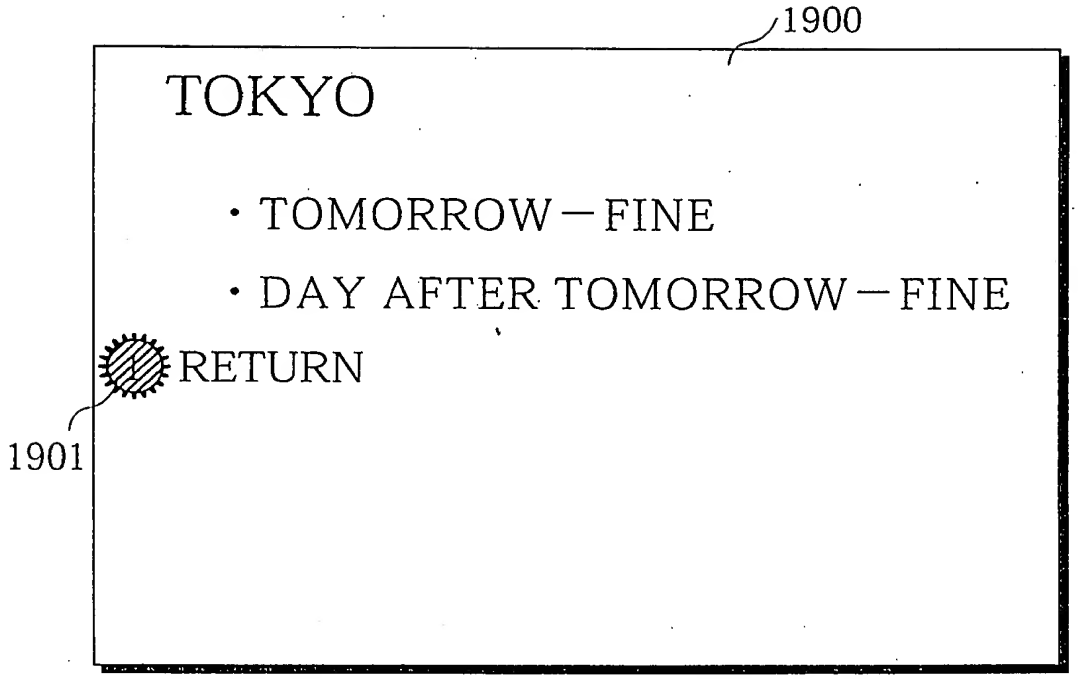

1900
TOKYO
• TOMORROW—FINE
• DAY AFTER TOMORROW—FINE
RETURN
1901

FIG. 20

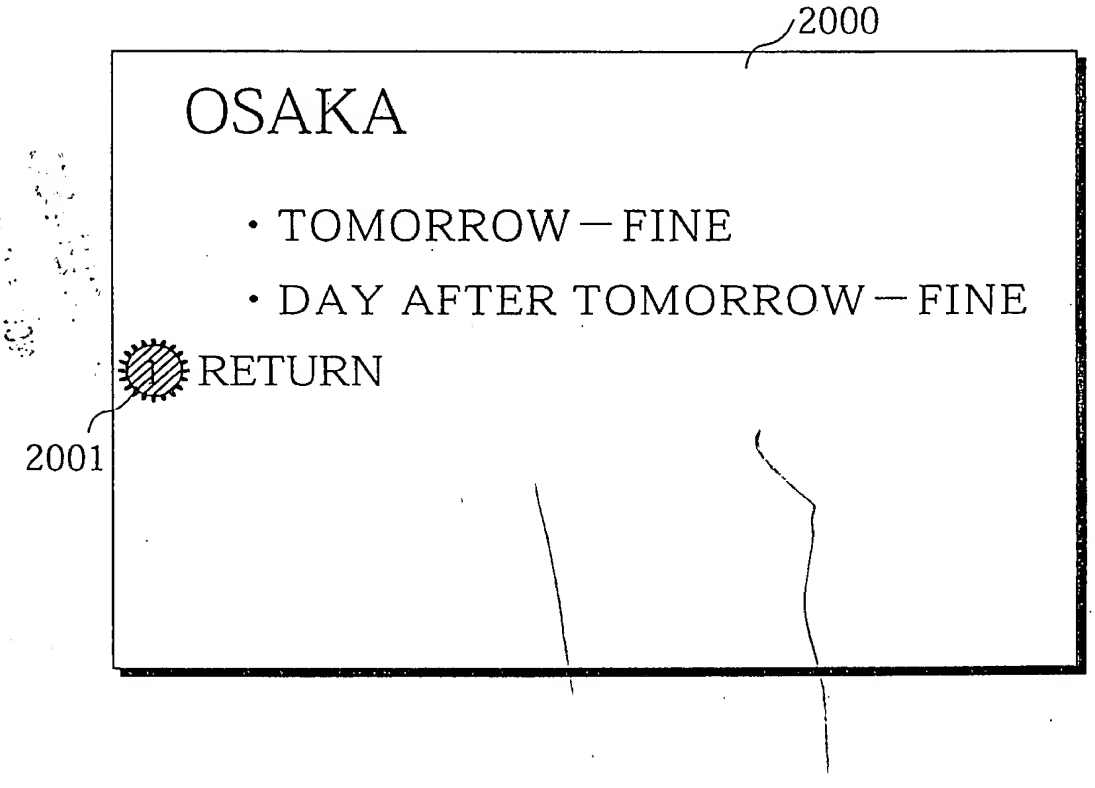

2000
OSAKA
• TOMORROW—FINE
• DAY AFTER TOMORROW—FINE
RETURN
2001

FIG. 21

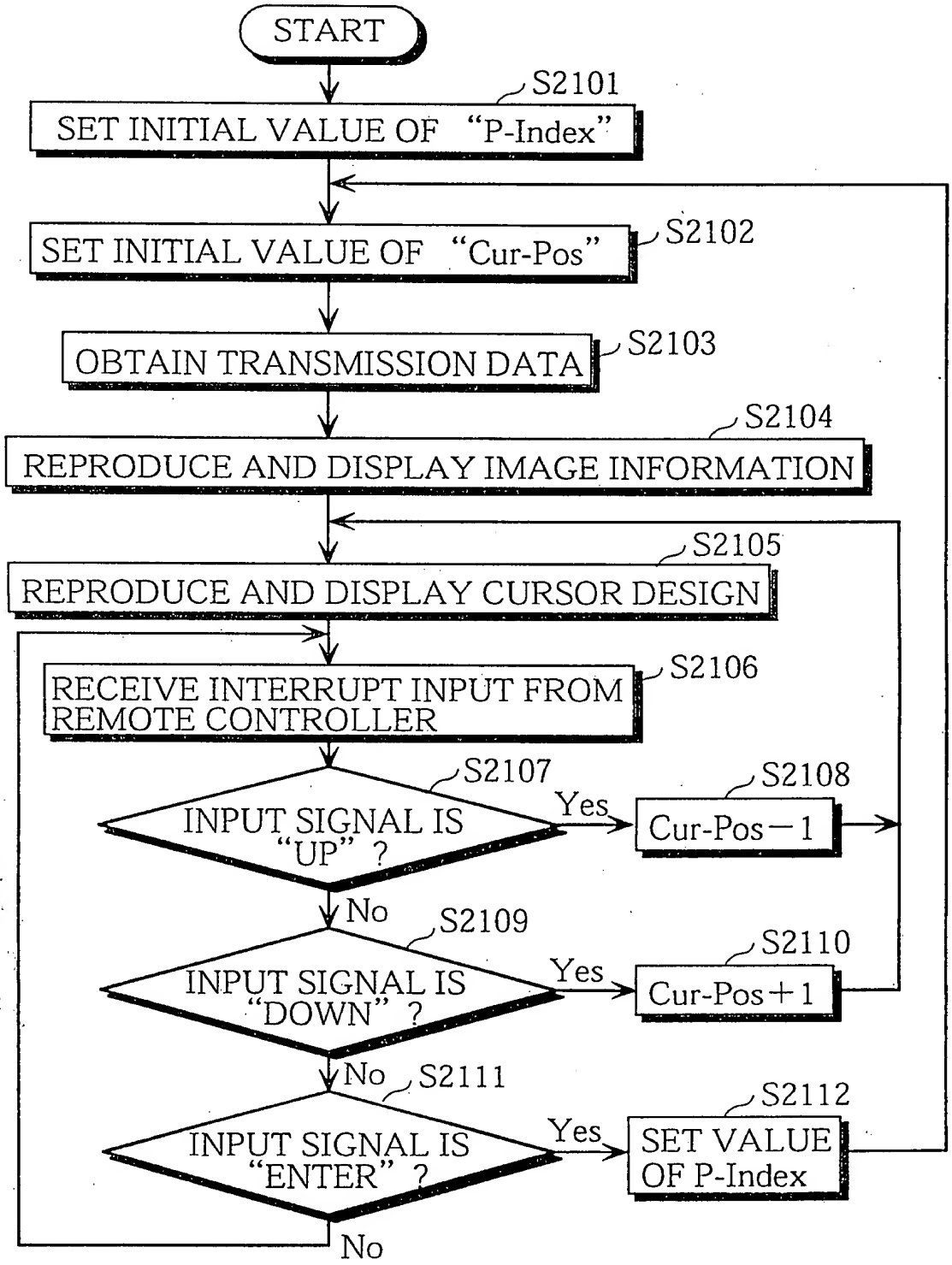

START
S2101
SET INITIAL VALUE OF "P-Index"
SET INITIAL VALUE OF "Cur-Pos"
S2102
OBTAIN TRANSMISSION DATA
S2103
REPRODUCE AND DISPLAY IMAGE INFORMATION
S2104
REPRODUCE AND DISPLAY CURSOR DESIGN
S2105
RECEIVE INTERRUPT INPUT FROM REMOTE CONTROLLER
S2106
INPUT SIGNAL IS "UP" ?
S2107
Yes
Cur-Pos−1
S2108
No
INPUT SIGNAL IS "DOWN" ?
S2109
Yes
Cur-Pos+1
S2110
No
INPUT SIGNAL IS "ENTER" ?
S2111
Yes
SET VALUE OF P-Index
S2112
No

FIG. 22

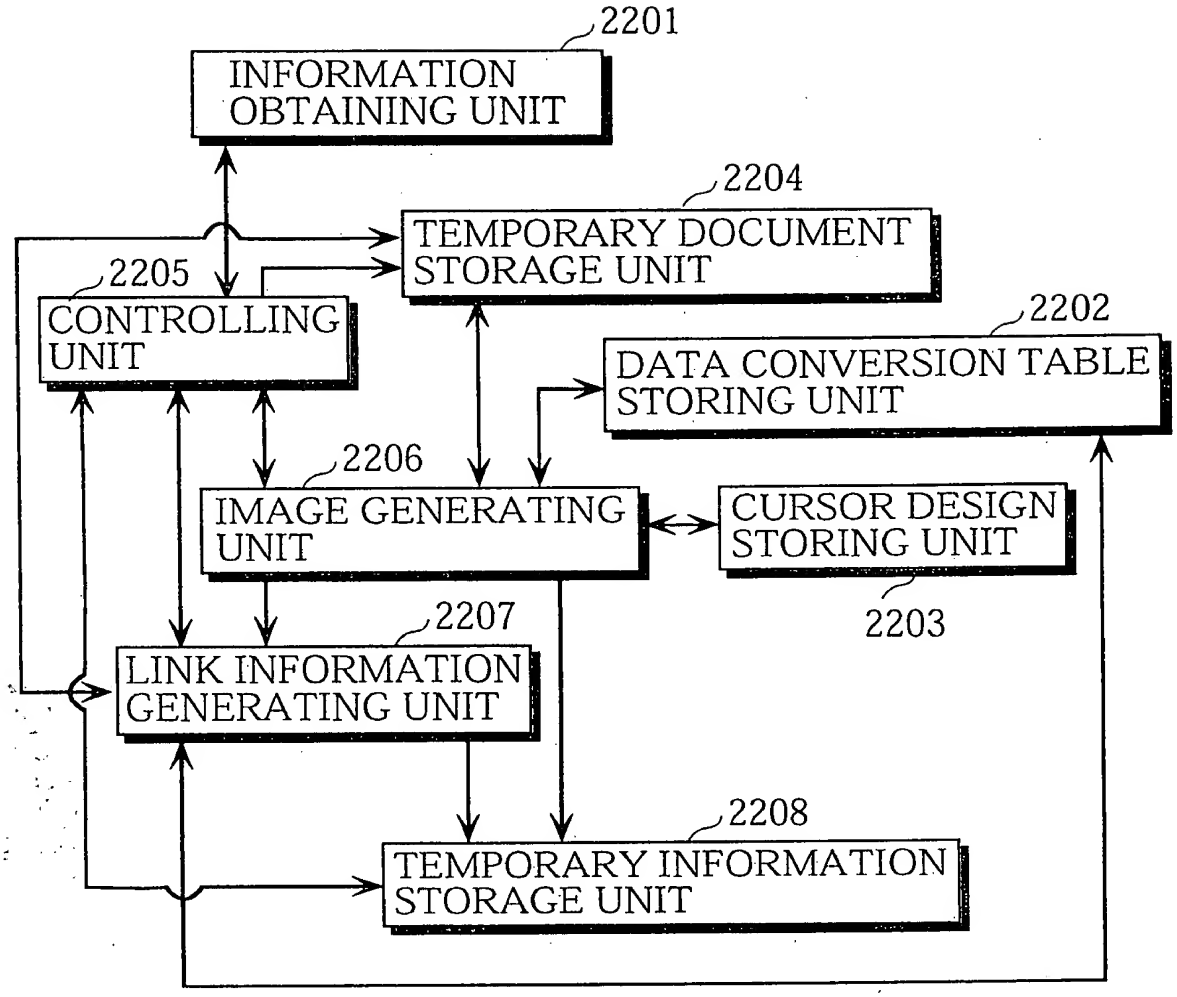

2201
INFORMATION OBTAINING UNIT
2204
TEMPORARY DOCUMENT STORAGE UNIT
2205
CONTROLLING UNIT
2202
DATA CONVERSION TABLE STORING UNIT
2206
IMAGE GENERATING UNIT
CURSOR DESIGN STORING UNIT
2203
2207
LINK INFORMATION GENERATING UNIT
2208
TEMPORARY INFORMATION STORAGE UNIT

FIG. 23

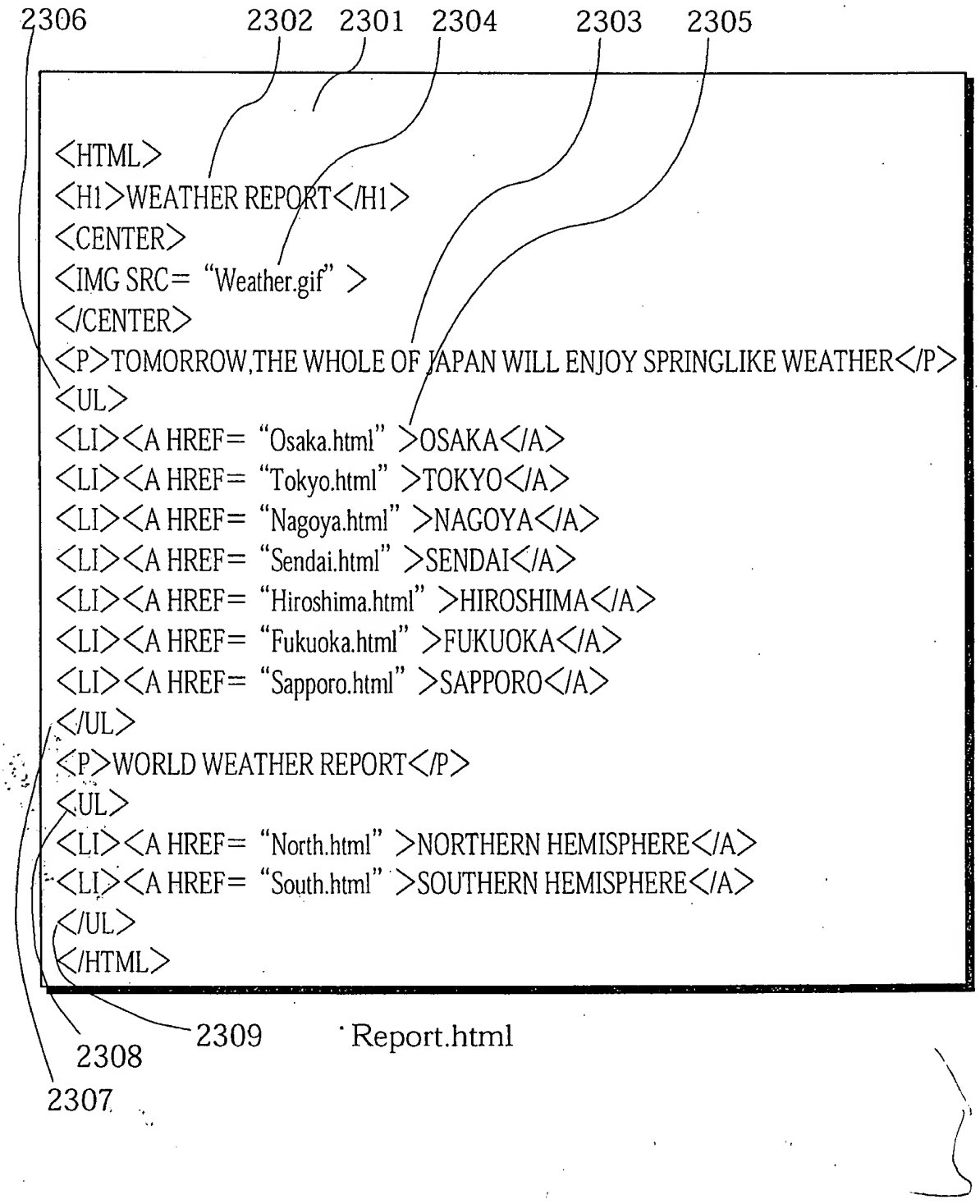

2306
2302
2301
2304
2303
2305
<HTML>
<H1>WEATHER REPORT</H1>
<CENTER>
<IMG SRC= "Weather.gif" >
</CENTER>
<P>TOMORROW,THE WHOLE OF JAPAN WILL ENJOY SPRINGLIKE WEATHER</P>
<UL>
<LI><A HREF= "Osaka.html" >OSAKA</A>
<LI><A HREF= "Tokyo.html" >TOKYO</A>
<LI><A HREF= "Nagoya.html" >NAGOYA</A>
<LI><A HREF= "Sendai.html" >SENDAI</A>
<LI><A HREF= "Hiroshima.html" >HIROSHIMA</A>
<LI><A HREF= "Fukuoka.html" >FUKUOKA</A>
<LI><A HREF= "Sapporo.html" >SAPPORO</A>
</UL>
<P>WORLD WEATHER REPORT</P>
<UL>
<LI><A HREF= "North.html" >NORTHERN HEMISPHERE</A>
<LI><A HREF= "South.html" >SOUTHERN HEMISPHERE</A>
</UL>
</HTML>
2309
Report.html
2308
2307

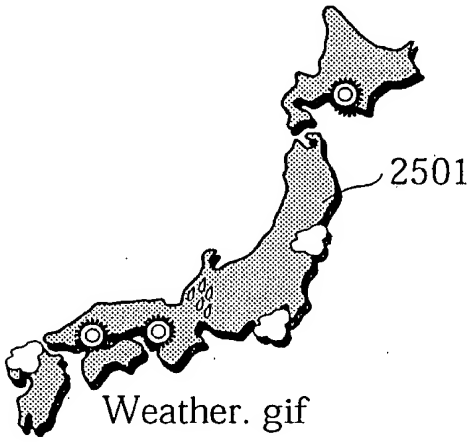
FIG. 24

2401

```
<HTML>
<H1>OSAKA WEATHER</H1>
<UL>
<LI>TOMORROW－FINE
<LI><A HREF="Osaka_week.html">WEATHER FOR WEEK</A>
<LI><A HREF="Osaka_month.html">WEATHER FOR MONTH</A>
</UL>
<LI><A HREF="Report.html">RETURN</A>
</HTML>
```

Osaka.html

FIG. 25



Weather. gif

FIG. 26

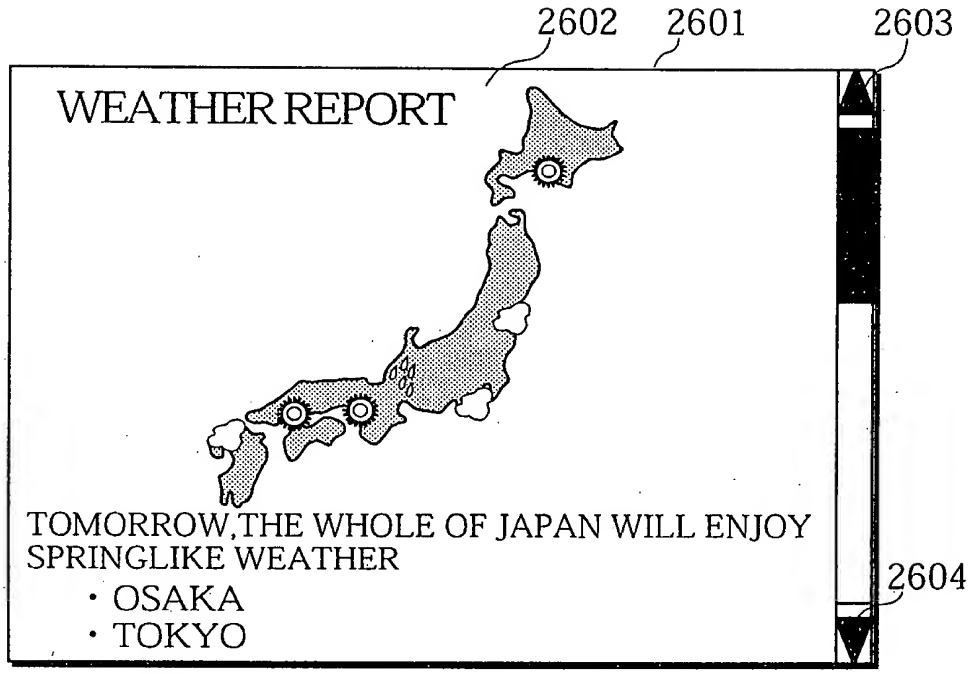

2602
2601
2603
WEATHER REPORT
TOMORROW,THE WHOLE OF JAPAN WILL ENJOY SPRINGLIKE WEATHER
・OSAKA
・TOKYO
2604

FIG. 27

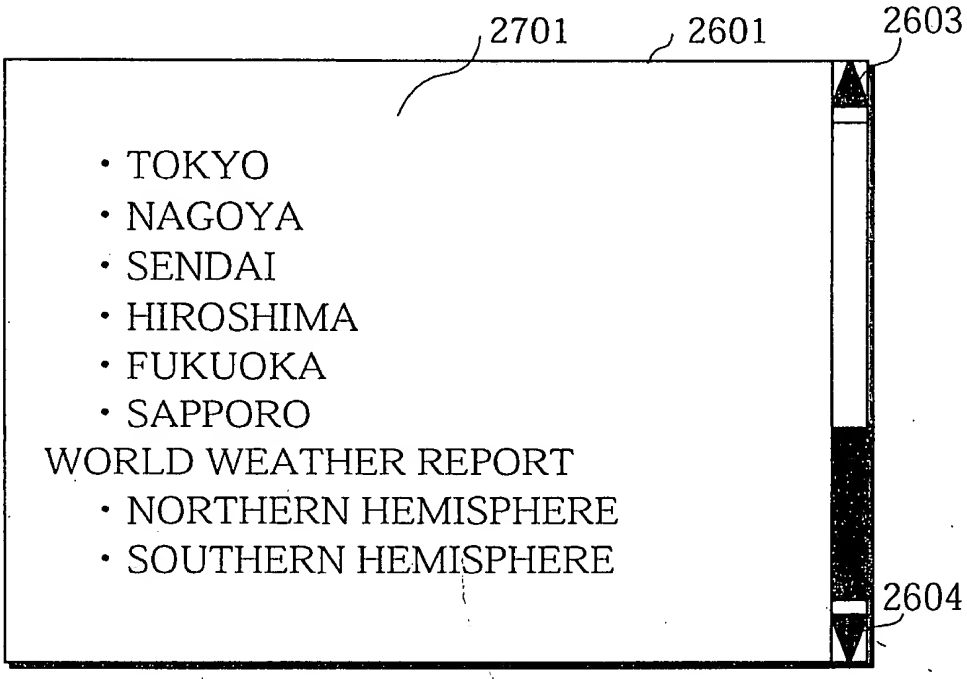

2701
2601
2603
・TOKYO
・NAGOYA
・SENDAI
・HIROSHIMA
・FUKUOKA
・SAPPORO
WORLD WEATHER REPORT
・NORTHERN HEMISPHERE
・SOUTHERN HEMISPHERE
2604

FIG. 28

2802 TAG	2803 STARTING POSITION	2801 FONT SIZE	2804
<H1>	x=10 y=10	(80,80)	
<P>	x = 10	(30,60)	
<LI>	x = 10	(30,60)	
⋮	⋮	⋮	

FIG. 29

	2901 BEFORE CONVERSION	AFTER CONVERSION
2902	FILE NAME	Index("FILE NAME")
2903	<A HREF= "FILE NAME" >	HotSpot(M "FILE NAME")
	⋮	⋮

FIG. 30

INDEX NO. (3002)	CURSOR DESIGN (3001)
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

3003

FIG. 31

FIG. 32

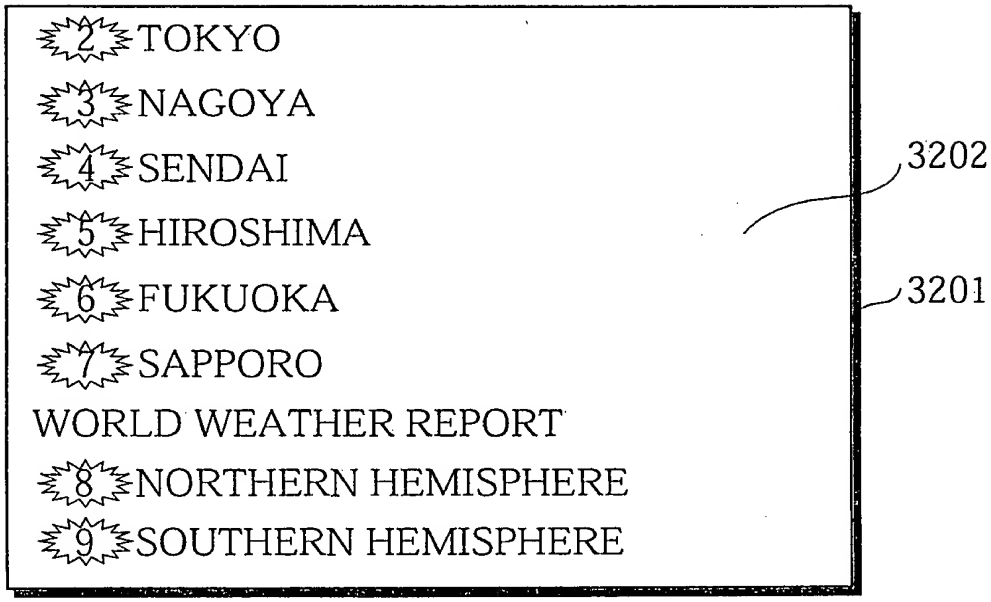

2 TOKYO
3 NAGOYA
4 SENDAI
5 HIROSHIMA
6 FUKUOKA
7 SAPPORO
WORLD WEATHER REPORT
8 NORTHERN HEMISPHERE
9 SOUTHERN HEMISPHERE
3202
3201

FIG. 33

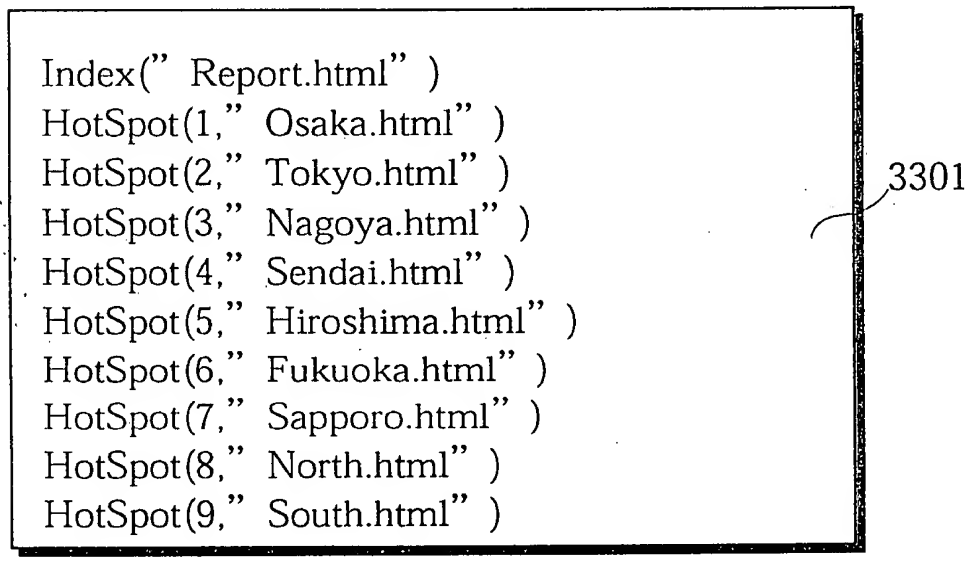

Index(" Report.html")
HotSpot(1," Osaka.html")
HotSpot(2," Tokyo.html")
HotSpot(3," Nagoya.html")
HotSpot(4," Sendai.html")
HotSpot(5," Hiroshima.html")
HotSpot(6," Fukuoka.html")
HotSpot(7," Sapporo.html")
HotSpot(8," North.html")
HotSpot(9," South.html")
3301

FIG. 35

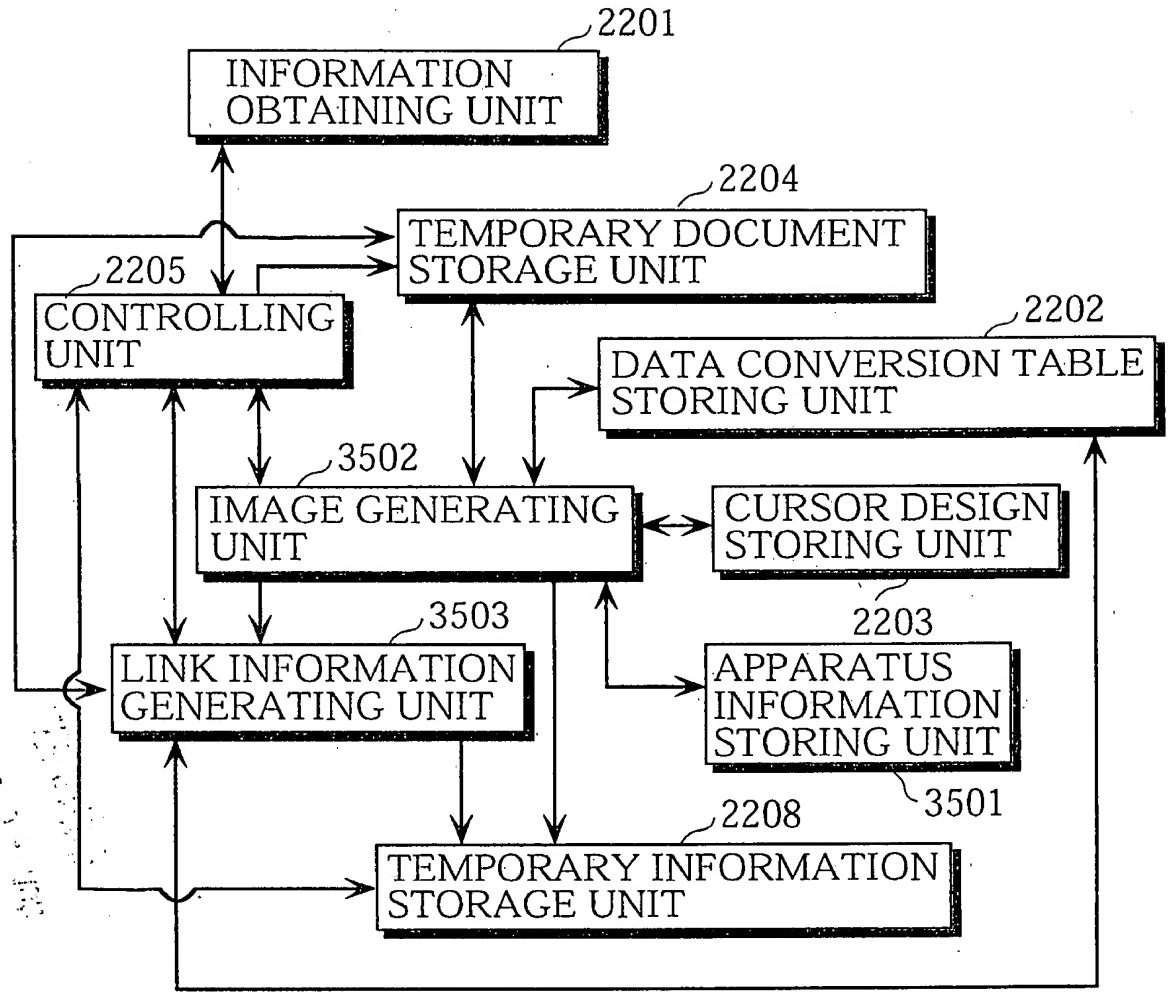

2201
INFORMATION OBTAINING UNIT
2204
TEMPORARY DOCUMENT STORAGE UNIT
2205
CONTROLLING UNIT
2202
DATA CONVERSION TABLE STORING UNIT
3502
IMAGE GENERATING UNIT
CURSOR DESIGN STORING UNIT
3503
2203
LINK INFORMATION GENERATING UNIT
APPARATUS INFORMATION STORING UNIT
3501
2208
TEMPORARY INFORMATION STORAGE UNIT

FIG. 34

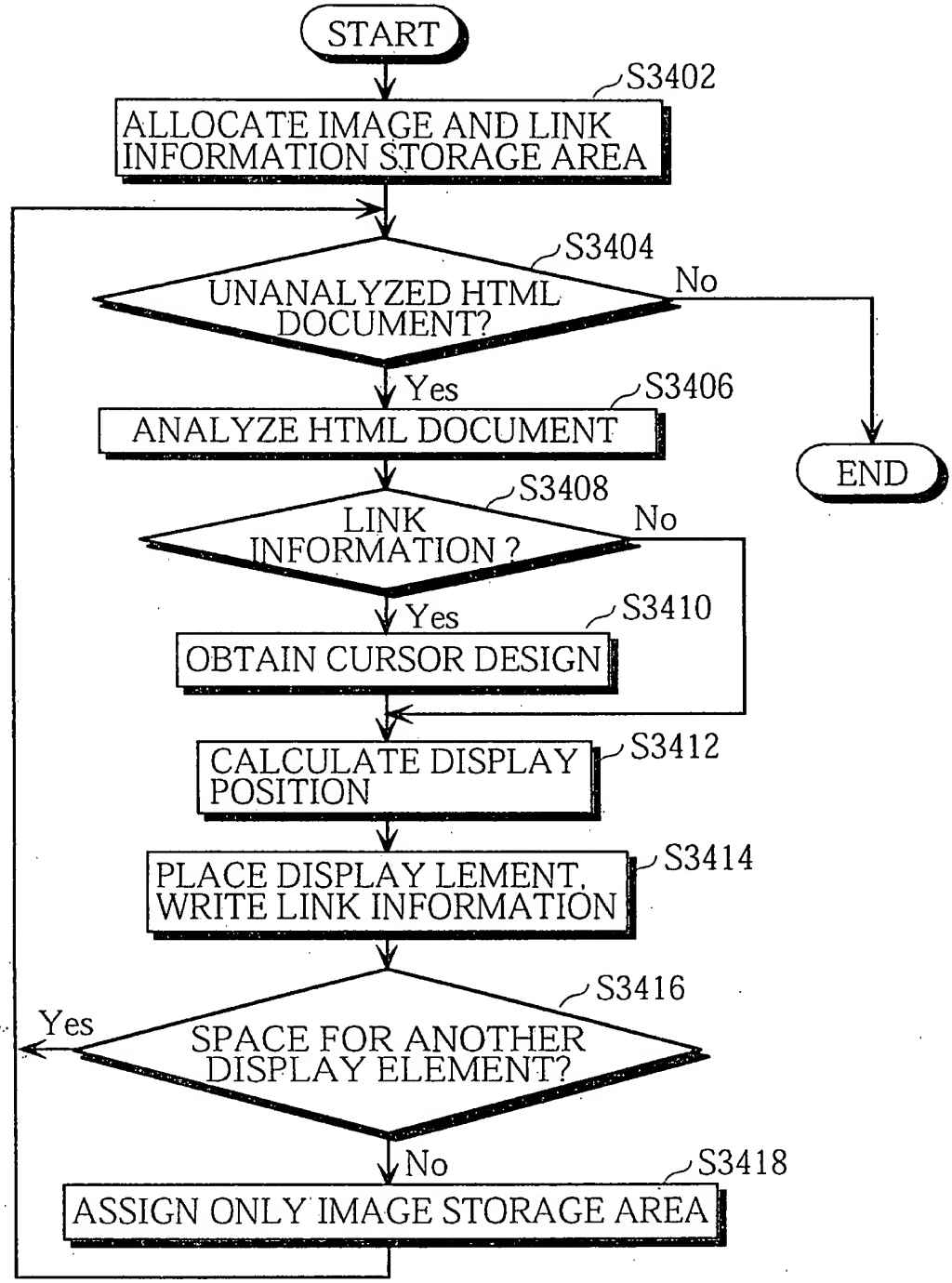

START
S3402
ALLOCATE IMAGE AND LINK INFORMATION STORAGE AREA
S3404
UNANALYZED HTML DOCUMENT?
No
Yes
S3406
ANALYZE HTML DOCUMENT
END
S3408
LINK INFORMATION ?
No
Yes
S3410
OBTAIN CURSOR DESIGN
CALCULATE DISPLAY POSITION
S3412
PLACE DISPLAY LEMENT, WRITE LINK INFORMATION
S3414
S3416
Yes
SPACE FOR ANOTHER DISPLAY ELEMENT?
No
S3418
ASSIGN ONLY IMAGE STORAGE AREA

FIG. 36

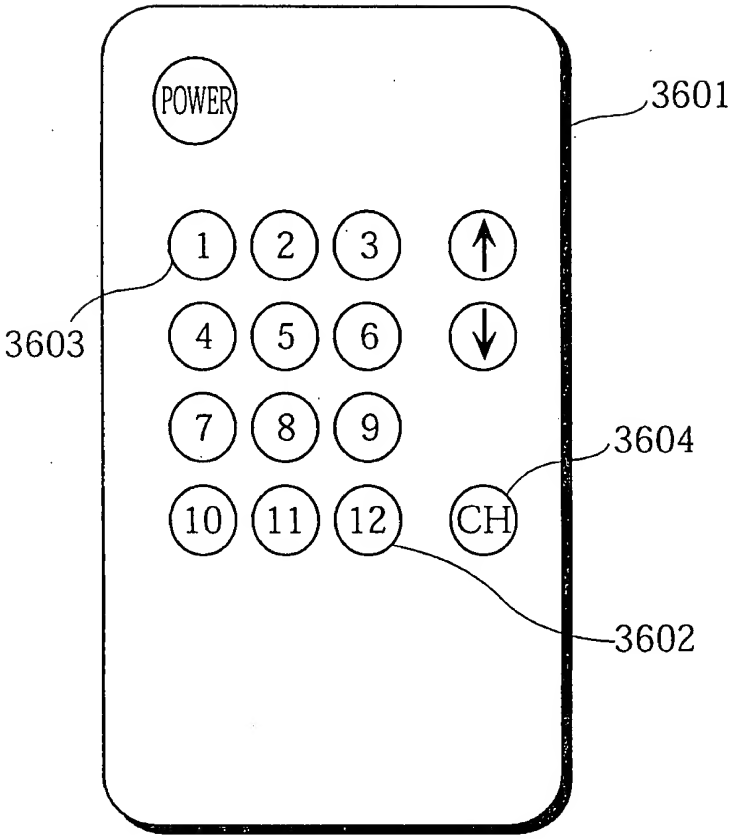


FIG. 37

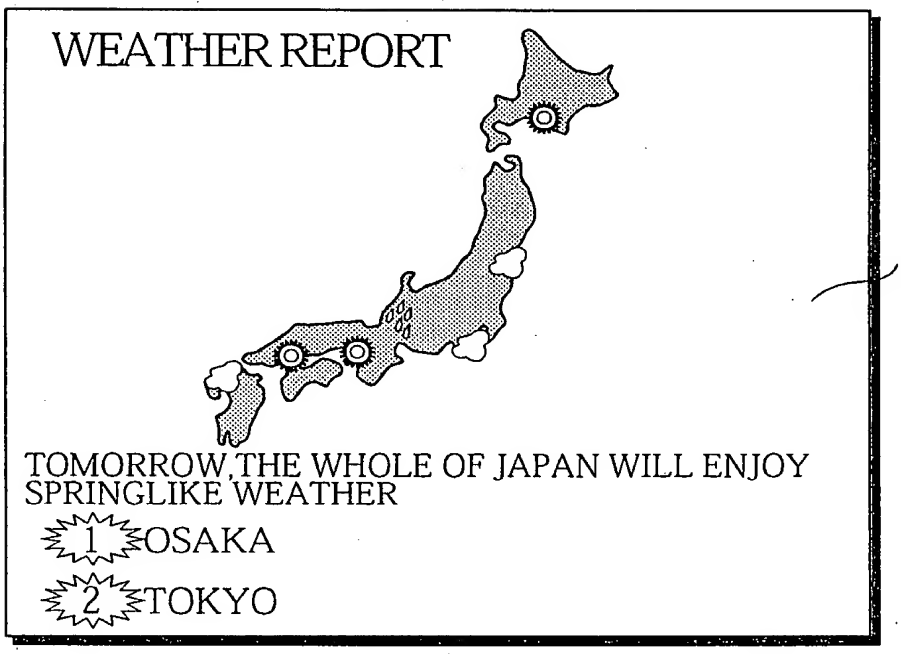

WEATHER REPORT
TOMORROW,THE WHOLE OF JAPAN WILL ENJOY SPRINGLIKE WEATHER
1 OSAKA
2 TOKYO
3701
Index(" Report.html")
HotSpot(1," Osaka.html")
HotSpot(2," Tokyo.html")
3702

FIG. 38

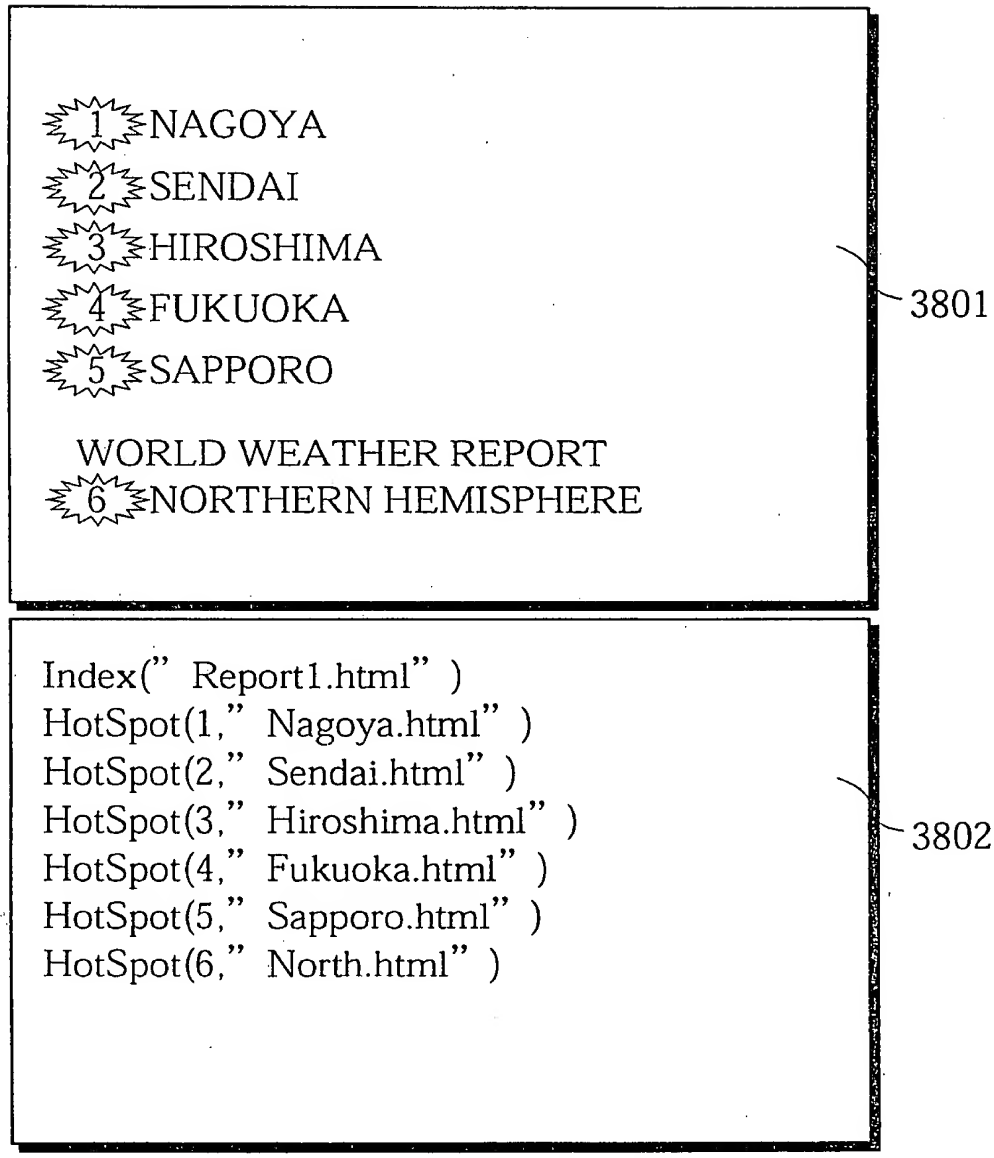

1 NAGOYA
2 SENDAI
3 HIROSHIMA
4 FUKUOKA
5 SAPPORO
WORLD WEATHER REPORT
6 NORTHERN HEMISPHERE
3801
Index(" Report1.html")
HotSpot(1," Nagoya.html")
HotSpot(2," Sendai.html")
HotSpot(3," Hiroshima.html")
HotSpot(4," Fukuoka.html")
HotSpot(5," Sapporo.html")
HotSpot(6," North.html")
3802

FIG. 39

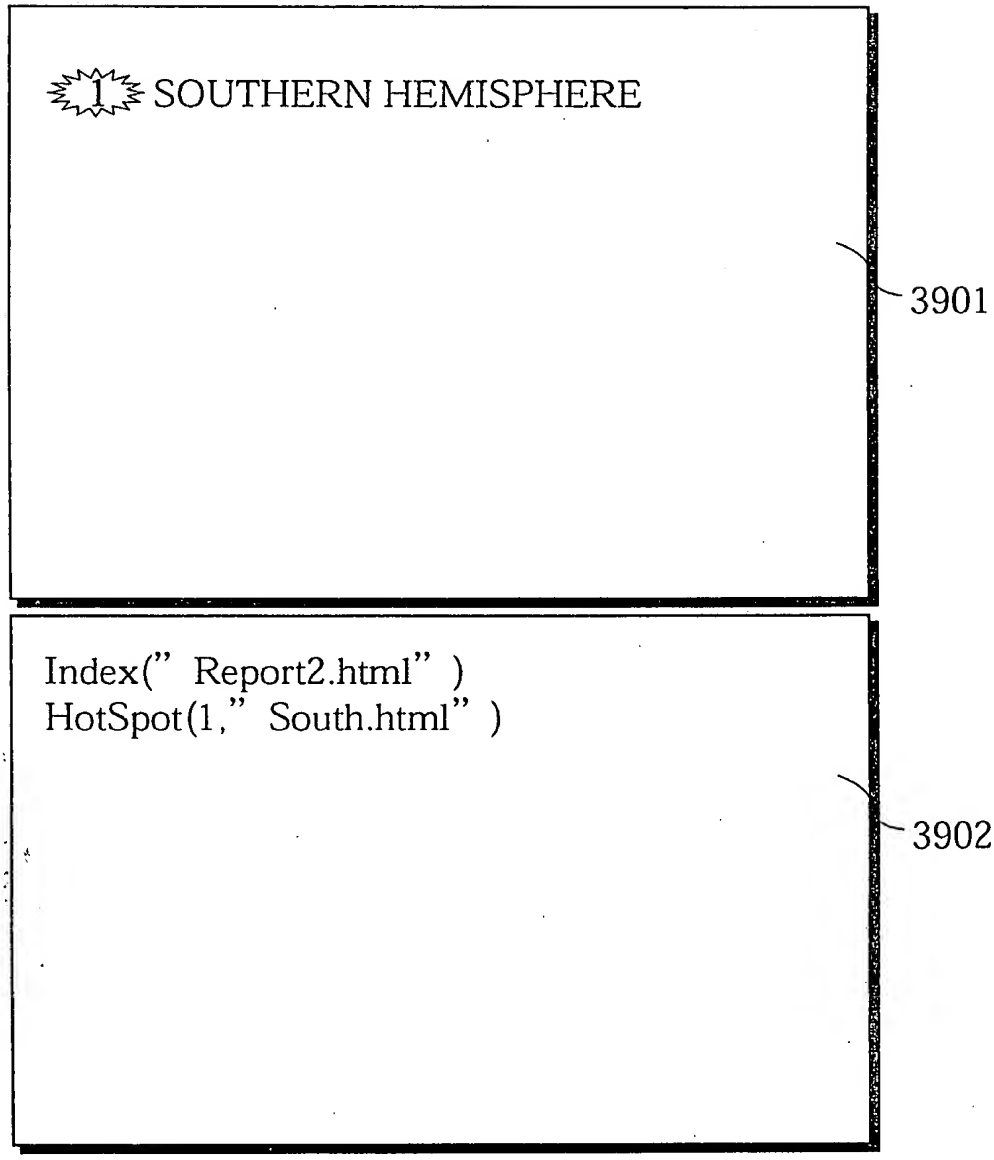

1 SOUTHERN HEMISPHERE
3901
Index(" Report2.html")
HotSpot(1," South.html")
3902

FIG. 40

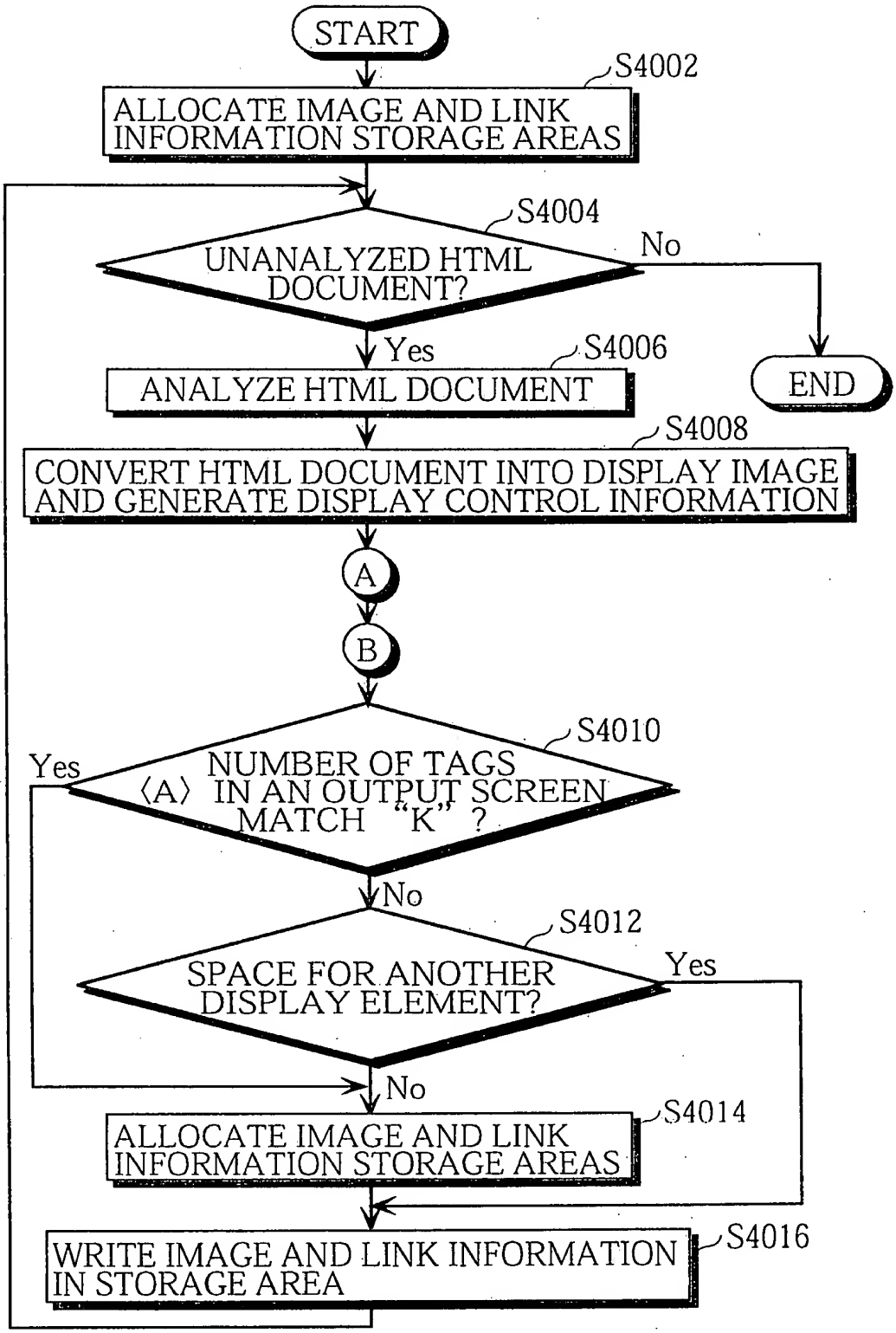

START
S4002
ALLOCATE IMAGE AND LINK INFORMATION STORAGE AREAS
S4004
UNANALYZED HTML DOCUMENT?
No
Yes
S4006
ANALYZE HTML DOCUMENT
END
S4008
CONVERT HTML DOCUMENT INTO DISPLAY IMAGE AND GENERATE DISPLAY CONTROL INFORMATION
A
B
S4010
NUMBER OF TAGS 〈A〉 IN AN OUTPUT SCREEN MATCH "K" ?
Yes
No
S4012
SPACE FOR ANOTHER DISPLAY ELEMENT?
Yes
No
S4014
ALLOCATE IMAGE AND LINK INFORMATION STORAGE AREAS
S4016
WRITE IMAGE AND LINK INFORMATION IN STORAGE AREA

FIG. 41

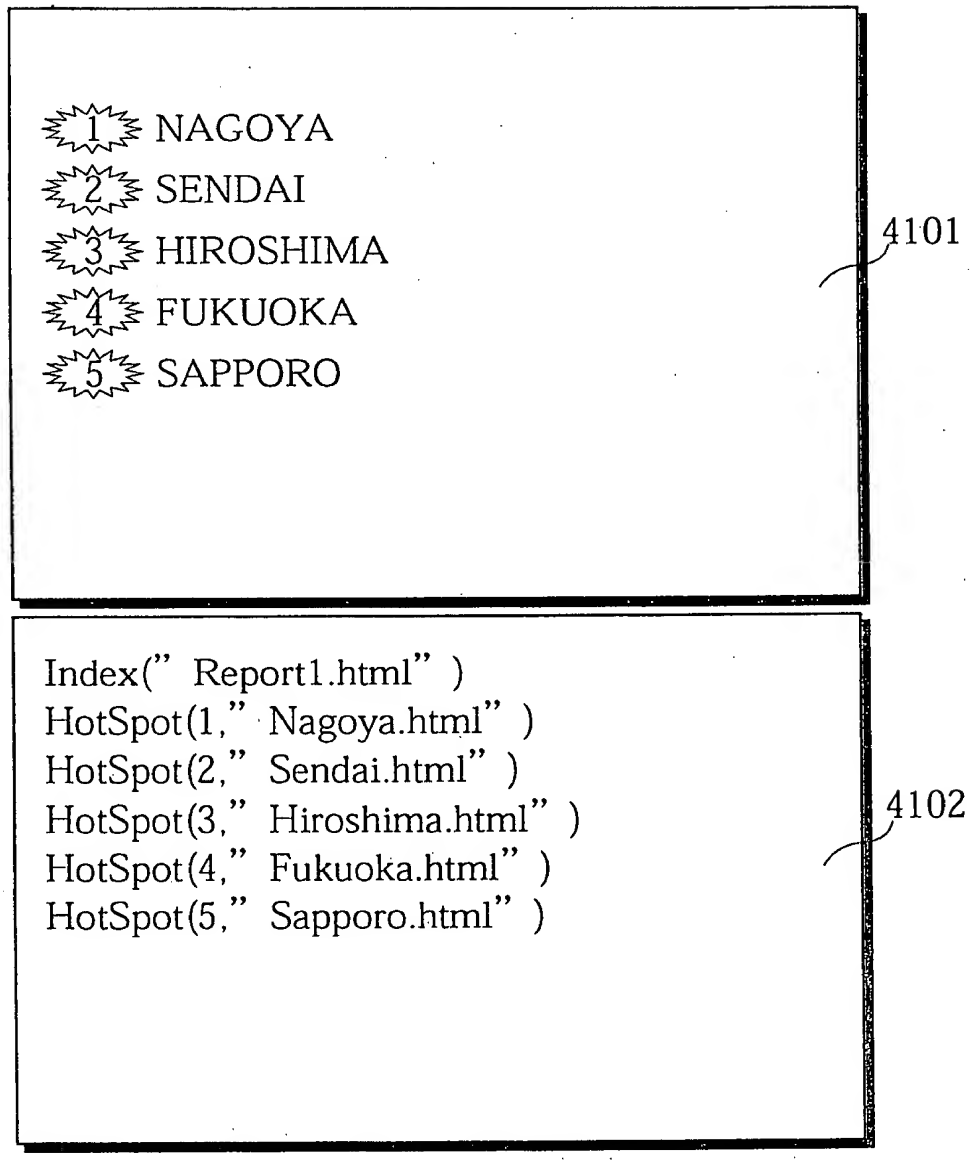

1 NAGOYA
2 SENDAI
3 HIROSHIMA
4 FUKUOKA
5 SAPPORO
4101
Index(" Report1.html")
HotSpot(1," Nagoya.html")
HotSpot(2," Sendai.html")
HotSpot(3," Hiroshima.html")
HotSpot(4," Fukuoka.html")
HotSpot(5," Sapporo.html")
4102

FIG. 42

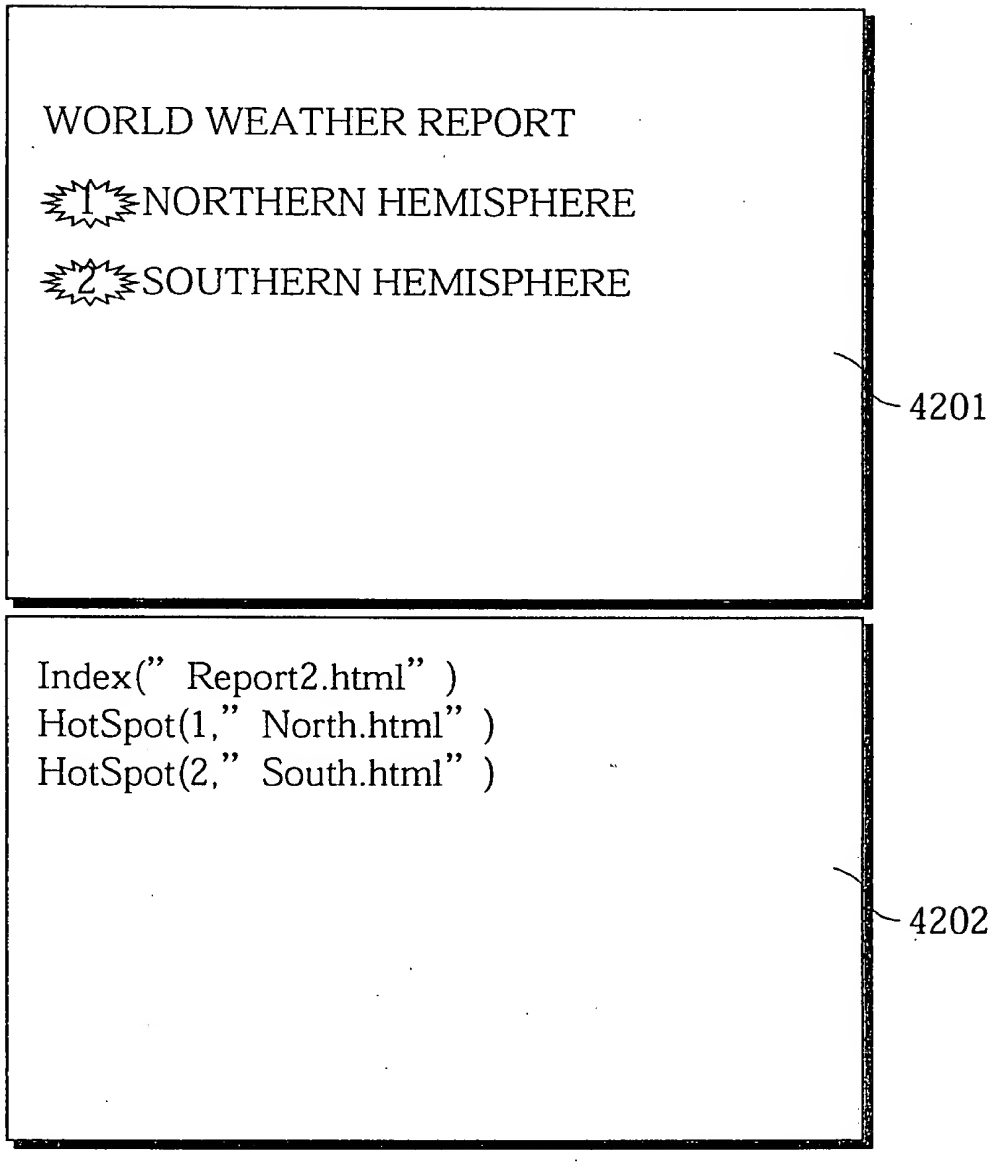
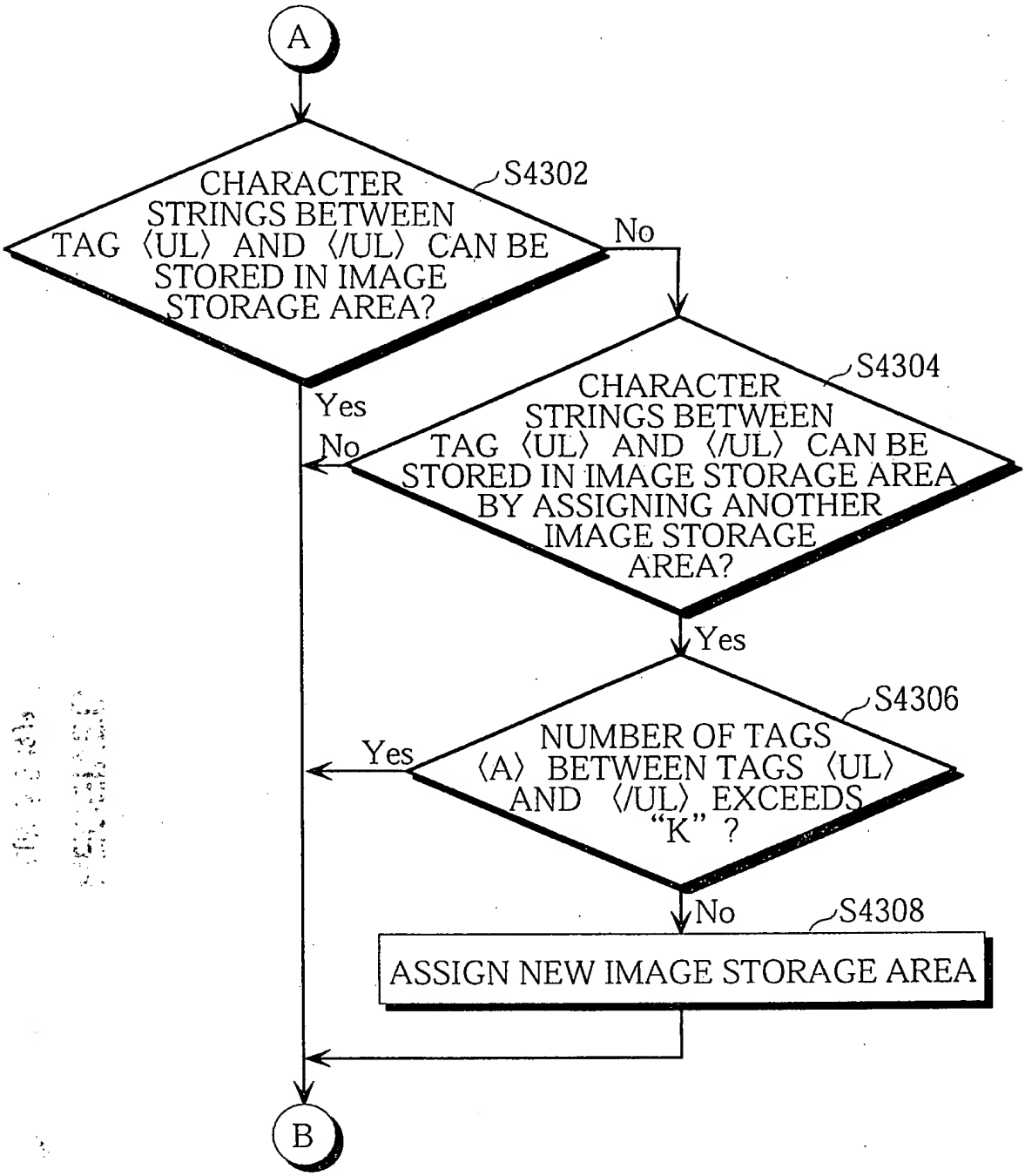

WORLD WEATHER REPORT
1 NORTHERN HEMISPHERE
2 SOUTHERN HEMISPHERE
4201
Index(" Report2.html")
HotSpot(1," North.html")
HotSpot(2," South.html")
4202

FIG. 43


A
CHARACTER STRINGS BETWEEN TAG ⟨UL⟩ AND ⟨/UL⟩ CAN BE STORED IN IMAGE STORAGE AREA?
S4302
No
Yes
CHARACTER STRINGS BETWEEN TAG ⟨UL⟩ AND ⟨/UL⟩ CAN BE STORED IN IMAGE STORAGE AREA BY ASSIGNING ANOTHER IMAGE STORAGE AREA?
S4304
No
Yes
NUMBER OF TAGS ⟨A⟩ BETWEEN TAGS ⟨UL⟩ AND ⟨/UL⟩ EXCEEDS "K" ?
S4306
Yes
No
ASSIGN NEW IMAGE STORAGE AREA
S4308
B